FINAL

2003 Marin County Congestion Management Program

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Marin County Congestion Management Agency

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EXECUTIVE SUMMARY

Introduction

Congestion Management Programs (CMPs) are designed to address existing and future transportation problems in urban areas of the State of California. The requirements put forth in this CMP prepared for Marin County and its cities and towns are the result of the voter approval of Propositions 111 and 116 in June 1990. This legislation increased transportation revenues and changed state transportation planning and programming processes. Each urban county in California is required to develop and bi-annually update a CMP. The main components of Congestion Management Programs are the following:

- A Congestion Management Agency (CMA) has been designated in each urban county. The CMA has the responsibility of developing, updating, and monitoring the CMP. Marin County and its cities and towns have designated the board serving as the Countywide Planning Agency as their CMA. The Congestion Management Agency is a 12-member board comprised of representatives from the Marin County Board of Supervisors and the City or Town Council of each local government in Marin County.
- Identification of a network of transportation facilities and designation of level of service standards for highways and roadways. Facilities are monitored for congestion levels periodically. (Chapter 1 and Chapter 2)
- Performance measures to evaluate current and future multimodal system performance for the movement of people and goods. (Chapter 3)
- Through the use of Travel Demand Management (TDM) techniques, alternatives to the single occupant private automobile are identified and encouraged. (Chapter 4)
- Development of a process to determine the impacts of local development decisions on the regional transportation network. This facilitates integration of decisions about land development, transportation investment, and air quality. (Chapter 5)
- A computer travel model and database to be used for estimating future transportation needs and impacts has been developed. (Chapter 6)
- A 7-year investment strategy (Capital Improvement Program [CIP]) is developed and updated every two years, in order to promote the goals of the CMP. The investment strategy links project eligibility for regional/state funding to the CIP. (Chapter 7)

It is important to note that a CMP is not a long-range policy document. The main thrust of CMP recommendations is short-term. At the regional level, the CMP is guided by the Metropolitan Transportation Commission's (MTC) *Regional Transportation Plan* and the Bay Area Air Quality Management District's (BAAQMD) *Bay Area Clean Air Plan*.

The CMP legislation is aimed at bringing local governments into the decision making process for capital investment in transportation. This serves to make local governments more aware of the real cost of transportation services. In addition, local governments are involved in the

development of funding mechanisms for transportation (i.e., impact fees and user fees). Local agencies need to be prudent in their decisions regarding transportation infrastructure in order to make the most of existing facilities, services, and available improvement and program funds.

In early 2003, the CMA adopted *Moving Forward: A 25-Year Transportation Vision for Marin County*. The CMA currently is developing a draft Transportation Sales Tax Expenditure Plan for a future ballot measure and a separate transportation land-use work program. In addition, the County of Marin will be updating *The Marin Countywide Plan* in 2004. The next CMP update (2005) will incorporate relevant goals, policies, projects, and programs of these related work efforts.

The CMP document is organized in chapters detailing the individual elements of the CMP. The chapters include the following:

Designated Roadway System (Chapter 1)

The CMP network of transportation facilities is designated so that it can be monitored annually to determine service levels. Standards for traffic Levels of Service (LOS)1 on the network have been established, and CMP actions and investments proposed in the CIP must support the attainment of those standards. The CMP legislation requires that all state highways and principal arterials be included in the network.

Level of Service Standards (Chapter 2)

The CMP legislation requires the establishment of a uniform method for monitoring levels of service on roadways. For principal arterials and conventional highways in Marin County, LOS D has been chosen by the Congestion Management Agency as the standard for Urban and Suburban Arterials including highways that serve as arterials (e.g., SR 1, SR 131), and LOS E was selected as the standard for Highway 101, Interstate 580, and State Route 37. The Highway Capacity Manual methodology is used to calculate levels of service on freeway segments as well as the volume-to-capacity ratios for segments of Urban and Suburban Arterials.

The CMP legislation allows trips not originating in a county, trips passing through a county, or trips generated by low and very low income housing to be excluded from the determination of conformance with LOS standards following consultation with MTC, Caltrans, and the BAAQMD. Even though they must be excluded for deficiency plan determinations, the CMA has elected to include these trips for planning purposes. Exclusion of these trips would present a misleading picture of the traffic conditions in the county and could artificially skew the inclusion and/or ranking of projects in the 7-year CIP.

For all roadways included in the portion of the CMP network within their jurisdictions, local governments are required to do the following:

[1] Level of service (LOS) is a measure of congestion on roadways. It represents the ease with which one can drive on the road. There are five LOS grades, from A to F. LOS A represents free flow conditions (i.e., unimpeded travel at the maximum posted speed), and LOS F represents very congested conditions (i.e., bumper-to-bumper).

- Adopt LOS standards for all CMP network roadways. LOS E is the minimum countywide standard for Highway 101, Interstate 580, and State Route 37. LOS D is the minimum Countywide standard for all other CMP network roadways. A local jurisdiction may adopt higher standards. In such a case, the CMA will assess conformance with the higher standard, not the countywide minimum.
- Annually monitor the LOS on the designated network according to the guidelines set forth in Chapter 8 and report to the CMA by September 1 of each year, relative to conformance with the adopted LOS standards.

Performance Measures (Chapter 3)

Eight performance measures are included in the CMP. In addition to the Level of Service performance measures discussed in Chapter 2, three multi-modal performance measures are established, including:

- Peak-hour travel time
- Person throughput
- Vehicle miles of congested highway

A performance measure evaluating the jobs and housing (employed residents) balance within the County is established. A balance between jobs and housing can help the regional system by reducing trip length and congestion.

Two performance measures for transit service are established for frequency and routing and coordination of service. These measures work in partnership with standards for roadway level of service and the transportation demand management element of the CMP. This will help bring about the desired goals with respect to mobility and air quality.

The performance measures for transit service in Marin County and its cities and towns are based on the Golden Gate Bridge, Highway and Transportation District 5-year Short Range Transit Plan. The burden is on the CMA to work with local governments and transit agencies to ensure that any transit improvements identified are reasonable and can be funded and implemented in the time frame they are proposed. Also, it may become necessary to require that some performance measure targets be met when transit improvements are identified in a deficiency plan.

An additional performance measure concerning pedestrian and bicycle investments is established to ensure that pedestrian and bicycle travel is being accommodated in new transportation improvement projects.

Travel Demand Management (Chapter 4)

California Government Code section 65089(b)(3) requires a travel demand management (TDM) element of a CMP to promote alternative transportation methods, such as carpools, vanpools, transit, bicycles, and park-and-ride lots; improvements in the balance between jobs and housing; and other strategies, including flexible work hours and parking management programs, that help reduce congestion and air pollution.

TDM is an approach to solving transportation problems by improving the efficiency of the existing transportation system by better managing the demand for transportation facilities. TDM focuses on reducing the number of vehicles on highways during peak periods through ridesharing (carpooling), increased use of transit, and staggered work hours. Such measures can be integrated into the land use planning process with better development review, and incentives to provide designs and facilities that are supportive of a multi-modal transportation system.

The travel demand management element of the CMP has several goals, including a coordinated countywide TDM program and the establishment of an on-going process that promotes local and regional planning to reduce traffic congestion.

Land-Use Analysis Program (Chapter 5)

California Government Code section 65089(b)(4) requires that a CMP contain a program to analyze the impacts of land use decisions made by local jurisdictions on the regional transportation system (both highways and transit). The intent of the Land-Use Analysis Program is to improve the linkage between local land use decisions and regional transportation facility decisions; to better assess the impacts of development in one community on another; and to promote information sharing between local governments when the decisions made by one jurisdiction will have an impact on another.

The Land-Use Analysis Program in Marin County is a process designed to improve upon decisions about land use and the spending of funds on highway and transit improvements in the county. The process is intended to work in a positive, cooperative fashion that supports the needs of local, county, regional and state governments.

Marin County has in place an inventory of proposed development projects, known as "PROPDEV." PROPDEV includes all projects with at least five residential units or at least 5,000 square feet of non-residential use. The PROPDEV database file covers 40 items of information including location, project sponsor, acreage, zoning, square feet of building area and status of development application.

A two-tiered information and analysis process of local land use impacts is instituted. Under "Tier I," local governments forward information on proposed General Plan Amendments to the CMA during the period when the local jurisdiction is reviewing the application. "Tier II" includes an annual update of projected land uses for 10 years in the future to be used for modeling both traffic and transit impacts.

In order to comply with the requirements of Tiers I and II of the Land-Use Analysis Program, all jurisdictions in the County need to:

- Submit a complete account of all residential and commercial projects approved during the preceding year.
- Continue to participate in the County's PROPDEV inventory.
- Submit information on all General Plan Amendments involving a net change (increase or decrease) of 100 or more P.M. peak hour trips.
- Submit information on all highway network and transit system changes in their jurisdiction that result from: (1) project mitigations, (2) ordinance approvals, or (3) changes to the Transportation Element of their General Plan.
- Adopt traffic LOS standards that are consistent with or more restrictive than the LOS standards in the CMP.
- Develop a 7-year Capital Improvement Program designed to meet the adopted LOS Standards and support alternate modes of transportation.
- Adopt both local and regional development traffic mitigation fee programs consistent with requirements and intent of the CMP legislation. Low and very low-income housing should specifically be exempt from mitigation fees. Development should be assessed only its fair share of improvements to regional facilities.
- Participate in the CMA's Travel Demand Management Program.
- Comply with other requirements as outlined in the Monitoring and Conformance Chapter (Chapter 8).

Travel Demand Model (Chapter 6)

California Government Code section 65089(c) requires that every CMA, in consultation with the regional transportation planning agency (MTC), cities, and the county, develop a uniform database on traffic impacts for use in a countywide transportation computer model. It also requires that the countywide model be the basis for computer models used for county sub-areas and cities, and that all models be consistent with the modeling methodology and databases used by the regional transportation planning agency. The CMA also approves sub-county area traffic models, and models used by local jurisdictions for land use impact analysis, if local jurisdictions decide to perform this work on their own.

The purpose of this requirement is to guide the CMA decision making process in identifying the most effective balance of transportation programs and projects that maintain LOS standards. This includes the consideration of the benefits of transit service and transportation demand management programs, as well as the need for projects that improve congestion on the CMP highway and arterial system. The modeling requirement is also intended to assist local agencies in assessing the impact of new development on the transportation system. The CMA will need to consider the nature of the analysis, functions of California specific analytic tools, and its available resources when deciding how to fulfill this requirement of the statutes.

The Marin County travel model is routinely updated as part of the consistency determination process with MTC.

Capital Improvement Program (Chapter 7)

Government Code section 65089(b)(5) requires that a CMP contain a 7-year Capital Improvement Program (CIP) to maintain or improve the adopted traffic LOS and to mitigate regional transportation impacts identified through the Land-Use Analysis Program. Capital improvement projects must conform to transportation-related vehicle emissions and air quality mitigation measures. These transportation control measures (or TCMs) are contained in the *Bay Area 2000 Clean Air Plan*.

Since the CMP will ultimately be incorporated into the Regional Transportation Plan (RTP) Action Elements, projects selected for Marin County's CIP will need to be consistent with the assumptions, goals, policies, actions and projects identified in the RTP. The RTP is the basic statement of transportation policy by the Metropolitan Transportation Commission (MTC). Because of the interdependence of transportation planning and land use planning, a major effort was made by MTC to adopt policies that complement and support programs of federal, state, and regional agencies. The lists of projects that result from this evaluation are shown in Tables 3 through 6 in Chapter 7, along with the projects that were part of the proposed 2002 Transportation Improvement Program (TIP).

A review of the tables in Chapter 7 illustrates that there are serious deficiencies in funding the highway improvements necessary to upgrade current system deficiencies, as well as to maintain the adopted LOS Standards. A countywide impact fee for new development, similar in concept to local development fees for transportation improvements now collected by a number of cities in the county, is a revenue generating tool that the CMA may ultimately require as part of the CMP.

The CMA participated in the development of three multimodal master plans in addition to the highway improvements, including a pedestrian and bicycle master plan, a local transit master plan, and a rail plan with the Sonoma-Marin Area Rail Transit (SMART) Commission for startup rail operations between Cloverdale and downtown San Rafael with an extension to a San Francisco bound ferry terminal in Marin.

Monitoring, Improvement/Deficiency Plans and Conformance (Chapter 8)

California Government Code sections 65089.3, 65089.4, and 65089.5 govern the conformance process. These sections require that, based on the information obtained through monitoring, the CMA must at least biennially determine whether or not the County and its cities and towns conform to the requirements of the CMP. If an agency believes that a local government is not conforming to CMP requirements, it must then hold a noticed public hearing to determine areas of nonconformance. If after the public hearing the CMA still believes that the local government is not conforming to CMP requirements, it must provide written notice to the local government citing the specific instances of nonconformance. The local government then has 90 days to remedy the instances of nonconformance. If after 90 days the local government has not

remedied the nonconformance instances, the CMA makes a finding of nonconformance and notifies the State Controller to withhold certain gas tax subvention funds.

The CMP legislation makes the following requirements of a conformance determination:

- Maintaining the highway LOS standards outlined in the CMP.
- Participating in a program to analyze the impact of land use decisions, including the estimate of the costs associated with mitigating these impacts. Specific requirements and recommendations are outlined in the Land-Use Analysis Program Element of the CMP.
- Participating in adoption and implementation of a deficiency plan when highway and roadway LOS standards are not maintained on portions of the designated system.

No Marin County jurisdiction is considered out of conformance at this time.

If either Marin County or cities and towns in the County do not meet each of these CMP requirements when the CMA makes its conformance determination for each jurisdiction, the jurisdiction that is found in nonconformance may risk losing an increment in their gasoline tax subvention funds and having projects programmed in the Regional Transportation Improvement Program (RTIP).

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CHAPTER 1 – DESIGNATED ROADWAY SYSTEM

1.1 Purpose and Intent of Legislation

The designated roadway system includes all state highways and principal arterials in Marin County. Once a highway or roadway has been designated as part of the system, it cannot be removed from the system.[2] Furthermore, the regional transportation system is to be part of the required land-use program.[3]

The Congestion Management Program (CMP) roadway system is a network that allows monitoring of performance with respect to established level-of-service (LOS) standards. The network must be created at a level whereby impacts can be identified, and a connection can be made between proposed projects and their specific impacts on the network. The network cannot be too small, as impacts would not be identifiable, and at the same time, the network cannot be too large, as logistical problems would arise in monitoring performance.

1.2 Relationship to Regional Plans

The Congestion Management Program is a short-range document. The CMP elements contain a number of actions that further the goals of the Regional Transportation Plan (RTP) maintained by the Metropolitan Transportation Commission (MTC). MTC has determined that the Marin County CMP is consistent with the RTP, last adopted in 2001. This RTP includes goals of mobility, safety, equity, sensitivity to the environment, and economic and community vitality.

The designated roadway system is included within the RTP's Metropolitan Transportation System. This facilitates regional consistency between Marin County's CMP and those of adjoining Contra Costa, San Francisco, and Sonoma counties.

1.3 Designated CMP System

State highways and other principal arterials in this CMP were defined in prior CMPs. MTC has provided a framework that allows for flexibility in defining the principal arterial system. The following criteria were used to establish the designated CMP roadway network:

State Highways. All State highways must be included in the CMP roadway network according to the CMP legislation. If a route is to be removed from the State Highway System, it will be evaluated according to the principal arterial criteria to determine whether it should remain in the CMP network.

Principal Arterials. In 1991, the Marin County Public Works Association met and determined the non-State facilities that should be included in the CMP roadway network. The criteria they used to determine which facilities should be subject to CMP requirements included:

[2] California Government Code Section 65089(b)(1)(A)
[3] California Government Code Section 60589(b)(4)

- Purpose and function of the roadway
- Land use adjacent to the roadway and proximity to activity centers
- Average Daily Traffic (ADT) volume, generally over 25,000 vehicles a day
- Connectivity to other facilities

1.4 The CMP Network

The following routes, shown on Figure 1 on page 3, are designated as the State Highway portion of the Marin County CMP network:

- Interstate 580 – from U.S. 101 to Contra Costa County line
- U.S. 101 – from San Francisco County Line to Sonoma County Line
- State Route 1 – from U.S. 101 to Sonoma County line
- State Route 37 – from U.S. 101 to Sonoma County line
- State Route 131 – from U.S. 101 to Main Street in Tiburon

The following routes (also shown on Figure 1) are designated as the principal arterial portion of the Marin County CMP network:

- Bel Marin Keys Boulevard – from U.S.101 southbound ramps to Arroyo San Jose
- Bridgeway/Richardson Street/Second Street/Alexander Avenue in Sausalito – from U.S. 101 to U.S. 101
- Fourth Street in San Rafael – from Ross Valley Drive to Marquard Avenue
- Novato Boulevard in Novato –from Sutro Avenue/San Marin Drive to Diablo Avenue
- Red Hill Avenue in San Anselmo – from Sir Francis Drake Boulevard to Ross Valley Drive
- Rowland Boulevard in Novato – from South Novato Boulevard to U.S. 101
- Second Street in San Rafael – from Marquard Avenue to U.S. 101
- Sir Francis Drake Boulevard in Larkspur and unincorporated Marin County – from U.S. 101 to Interstate 580
- Sir Francis Drake Boulevard in Larkspur, Kentfield, Ross, San Anselmo, and Fairfax – from State Route 1 to U.S. 101
- South Novato Boulevard in Novato – from Novato Boulevard to U.S. 101
- Third Street in San Rafael – from Marquard Avenue to U.S. 101
- In total, the 123-mile CMP designated roadway network contains 91 miles of state highways and 32 miles of principal arterials.

MARIN COUNTY 2003 CONGESTION MANAGEMENT PROGRAM

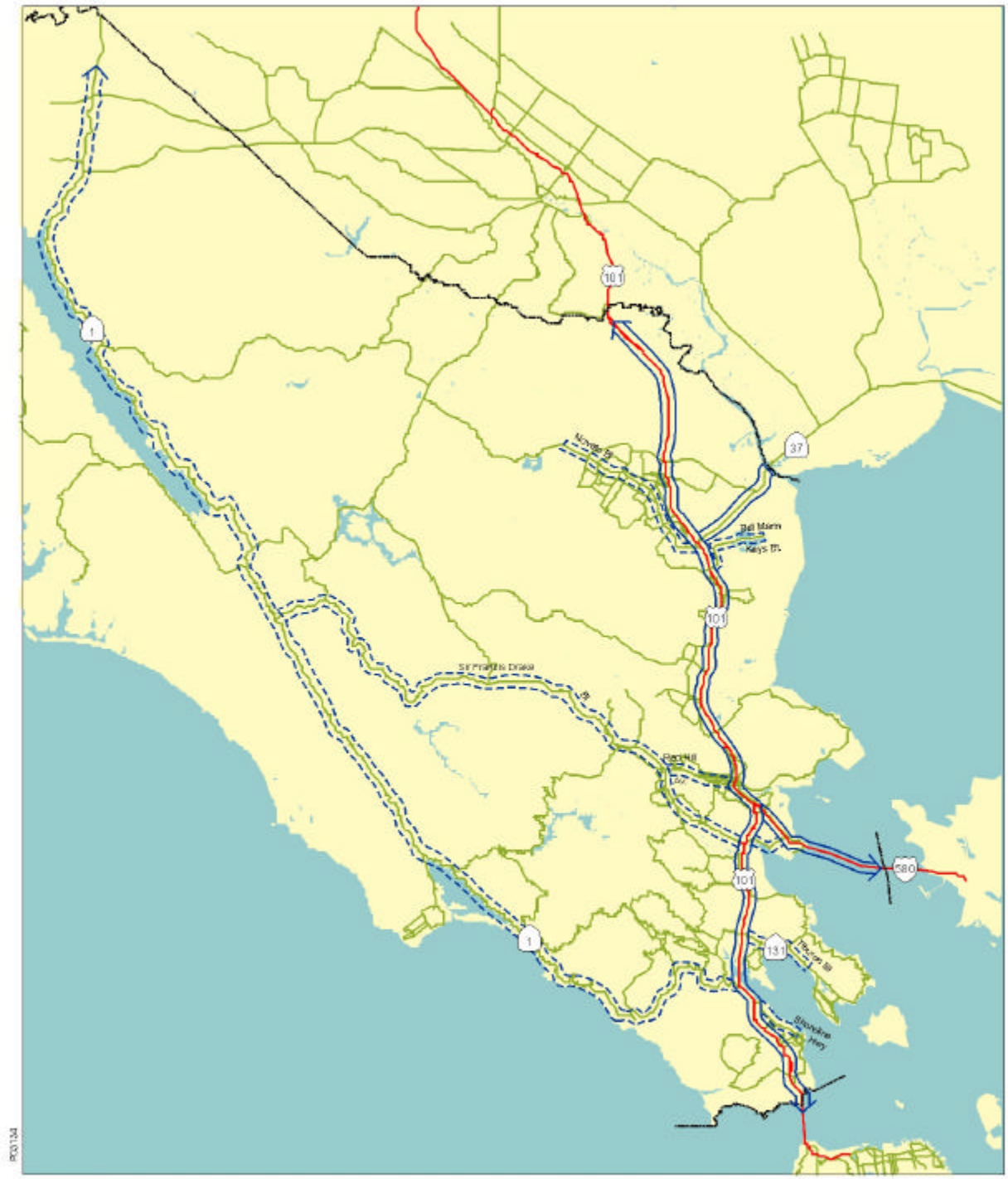

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Figure 1
CMP Facilities

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CHAPTER 2 – LEVEL-OF-SERVICE STANDARDS

2.1 Purpose and Intent of Legislation

Levels-of-service (LOS) standards are to be established as part of the CMP[4], and are to be specified by one of the following methodologies:

- Transportation Research Board Circular 212, Interim Materials On Highway Capacity, 1980;
- Transportation Research Board, Highway Capacity Manual, 2000; or
- A uniform methodology adopted by the CMA that is consistent with the Highway Capacity Manual. The CMA is to decide which LOS methodology to adopt.

2.1.1 Objective

Traffic LOS definitions describe conditions in terms of speed and travel time, volume, capacity, ease of maneuverability, traffic interruptions, comfort, convenience, and safety. There are five gradations of LOS, from A to F. LOS A reflects free flow conditions, with vehicles traveling at the maximum posted speed. LOS F reflects congested conditions, with vehicles traveling bumper-to-bumper.

The LOS designation provides a quantitative tool that can be used to analyze the impacts of land-use changes on the CMP network. Traffic LOS also is used as a measure of system performance (e.g., congestion). Each year the CMA is required to determine whether local governments have been conforming to the CMP, including attainment of LOS standards. This will be achieved through a self-certification process whereby monitoring and reporting of the LOS conditions are conducted by the CMA or by local jurisdictions. The CMA will then, upon receiving the local monitoring reports, determine whether the local government is in conformance with the CMP. Additional detail on monitoring requirements is included in Chapter 8.

Local governments must consider the impacts that land-use decisions will have on the LOS on the designated CMP network. Therefore, a systems approach may have to be examined when considering the LOS on the entire system. Cities and counties may be responsible for improvements and funding of programs that will affect the system as a whole.

2.2 Highway Level-of-Service Standards

2.2.1 Goals and Objectives

The LOS technique should allow for the measurement of traffic growth trends through volumes, capacity, and measures of delay. The objectives are to develop an approach that is consistent, easy to use, non-duplicative, and compatible with local government data and travel demand models. The following represents the approach used for each issue.

[4] California Government Code 65089(b)(1)(A)

Issue	Approach
Inter-County Trips	In accordance with MTC guidelines, trips with no trip end in Marin County (through trips) will not be subtracted.
LOS Standards	D for Urban and Suburban Arterials, E for Freeways and Rural Expressways (U.S. 101, Interstate 580, and State Route 37)
Methods of Analysis	**Freeway and Rural Expressway Segments** – The analysis technique for freeway segments, based on segment weekday P.M. peak-hour volume to capacity ratios is from Chapter 23 and 24 of the *Highway Capacity Manual.* (The P.M. peak hour is the highest consecutive 60 minutes of traffic in the afternoon, typically between 5 P.M. and 6 P.M.) **Urban and Suburban Arterial Segments** – Volume-to-capacity ratios will be the analysis technique for arterial sequences, utilizing capacities provided in Chapter 15 and 16 of the *Highway Capacity Manual*, and based on weekday P.M. peak-hour traffic volumes. (The P.M. peak hour is the highest consecutive 60 minutes of traffic in the afternoon, typically between 5 P.M. and 6 P.M.) **Rural Roadways** – Chapter 20 of the *Highway Capacity Manual* will be the analysis technique for rural roadways, based on weekday P.M. peak-hour traffic volumes. (The P.M. peak hour is the highest consecutive 60 minutes of traffic in the afternoon, typically between 5 P.M. and 6 P.M.)
Monitoring	The local agency (e.g., city and county) or the CMA will do the LOS monitoring. Count frequency will be annual (with certain exceptions outlined in Chapter 8), recognizing that more frequent counting could be done as part of development impact study requirements.
Deficiency Analyses	More refined analyses may be required when determining if a roadway segment is deficient. If appropriate, the operational analysis methodology described in the *Highway Capacity Manual* may be used to determine LOS.

The CMP legislation allows trips not originating in a county, trips passing through a county, or trips generated by low- and very low-income housing to be excluded from the determination of conformance with LOS standards following consultation with MTC, Caltrans, and the Bay Area Air Quality Management District. The CMA decided to include these trips, however, when determining conformance with LOS standards for local planning purposes, as exclusion of these

trips would present a misleading picture of the traffic conditions in the county and could artificially skew the inclusion and/or ranking of projects in the 7-year Capital Improvement Program.

In September 2002, the California Legislature passed SB 1636, which is intended to "remove regulatory barriers around the development of infill housing, transit-oriented development, and mixed use commercial development" by enabling local jurisdictions to designate "infill opportunity zones." These zones are defined as areas designated for compact, transit-oriented housing and mixed use within 1/3 mile of major transit stops. The CMP network segments within the IOZ will be exempt from CMP traffic LOS standards. In their place, a city must include these streets under an alternative area-wide LOS standard or multimodal composite or personal LOS standard, or approve a list of flexible mitigation options that includes investments in alternative modes of transportation. Marin County has not designated any zones at this time.

2.2.2 Facility Classifications

The *Highway Capacity Manual* provides methods for determining LOS on several types of facilities. These facilities are grouped into interrupted- and uninterrupted-flow facilities. Interrupted-flow facilities include city streets and surface highways (like Highway 1) that are part of the State Highway System. For purposes of LOS analysis, the CMP network can be classified into two functional types of facilities:

Basic Freeway Segments. These are uninterrupted-flow facilities with multiple lanes available in each direction since traffic only stops during the most congested periods or when breakdowns occur.

Urban and Suburban Arterials. These are multi-lane streets that have traffic signals less than two miles apart on average. Volume-to-capacity ratios are used to estimate level of service. The advantage of this approach is that volume-to-capacity ratios are easily determined.

2.2.3 Definition of Roadway Segments

The segments of the CMP network that will be analyzed are included in Appendix A. For the principal arterials, a "responsible jurisdiction" has been designated. The jurisdiction named is the one with the greatest segment mileage. This jurisdiction is responsible for preparing any deficiency plans that may be required, as well as complying with all other requirements of the CMP legislation related to that segment. Other jurisdictions through which the segment travels are expected to work in a cooperative fashion with the responsible jurisdiction, and bear a pro-rata share of the cost of any improvement to the facility based on the approximate cost of improvements in their jurisdiction. In the event that funding is needed for a program, each jurisdiction would contribute its fair share of the cost based on segment mileage within the jurisdiction.

2.2.4 Identification of "Grandfathered" Roadway Segments

Roadway segments that operated at a lower LOS than the standard, which was established in 1991, are "grandfathered" and allowed to continue to operate at a lower LOS standard level until such time as they are improved or the traffic load is diverted. Freeway segments that operated

LOS F or arterial segments that operate at LOS E or F in the 1991 CMP qualify as "grandfathered" segments. The status of each segment in Marin County is listed in Table 1 on page 9. The grandfathered segments are illustrated in Figure 2 on page 10.

The CMA, in its decision to grandfather the LOS F facilities, is recommending that an improvement plan be developed to address congestion on U.S. 101 and for grandfathered segments of other roadways. An improvement plan consists of a description of the actions required to improve the LOS on the facility, either by increasing capacity or managing the demand for travel in a manner that effectively improves LOS.

2.2.5 2003 Monitoring Results

The results of the survey suggest different actions in monitoring for four different categories of roadways. Table 2 on page 11 illustrates the actions that should be taken on each segment.

The first category includes the non-grandfathered roadway segments with satisfactory status for now and for which no action is needed. These are ten of these segments.

The second category includes those roadway segments that operate at acceptable levels of service but were originally included in the grandfathered segments in the CMP. These roadway segments should continue to be monitored each year and made subject to the requirements of the CMP. Improvement plans may not be necessary at this time but may be required in the future. Five roadway segments fall under this category.

The third category includes those roadways that currently operate worse than the LOS standards but were not grandfathered in the CMP. Any roadway segments in this category should be highlighted for future evaluation, and then the CMA should decide whether deficiency plans or improvement plans are required. No segments fall under this category.

The fourth category includes eight locations that were grandfathered roadway segments in the CMP and were found to currently operate worse than the LOS standard. The segments that are grandfathered and operate worse than the LOS standard should have an improvement plan developed.

It is recognized that certain cities and towns have made policy decisions to not widen certain roadways in their jurisdiction. These cities' and towns' improvement plans would consist of the Transportation Demand Management (TDM) and Traffic/Transportation System Management (TSM) options they would choose to improve levels of service or reduce the future worsening of levels of service on the CMP designated facility that operates worse than the LOS standard.

After screening for "grandfathered" facilities, no Marin County jurisdiction is considered out of conformance at this time.

Table 1 – "Grandfathered" Status of Segments

Segment Number	Type	Location Name	From	To	Grandfathered?
1	Principal Arterial	Shoreline Highway (State Route 1)	Flamingo Road	Sonoma County Line	No
2	Basic Freeway	U.S. 101	State Route 37	Sonoma County Line	Yes
3	Principal Arterial	Novato Blvd	San Marin Dr/Sutro Ave	Wilson Avenue	No
4	Principal Arterial	South Novato Blvd	U.S. 101	Novato Blvd	No
5	Basic Freeway	State Route 37	Sonoma County Line	U.S. 101	No
6	Principal Arterial	Bel Marin Keys	Arroyo San Jose	State Route 101	Yes
7	Basic Freeway	U.S. 101	N. San Pedro Road	State Route 37	Yes
8	Basic Freeway	U.S. 101	Mission Ave	N. San Pedro Road	Yes
9	Principal Arterial	Sir Francis Drake Blvd	Red Hill Ave	Butterfield Rd	Yes
10	Principal Arterial	Red Hill Ave	Ross Valley Drive	Sir Francis Drake Blvd	No
11	Basic Freeway	U.S. 101	Interstate 580	Mission Ave	Yes
12	Principal Arterial	Sir Francis Drake Blvd	U.S. 101	College Ave	Yes
13	Basic Freeway	U.S. 101	Tiburon Blvd (SR 131)	Interstate 580	Yes
14	Basic Freeway	Interstate 580	U.S. 101	Sir Francis Drake Blvd	Yes
15	Basic Freeway	Interstate 580	Sir Francis Drake Blvd	Contra Costa County Line	No
16	Principal Arterial	E. Sir Francis Drake Blvd	Interstate 580	U.S. 101	Yes
17	Basic Freeway	U.S. 101	Shoreline Highway (SR 1)	Tiburon Blvd (SR 131)	Yes
18	Principal Arterial	Tiburon Blvd (State Route 131)	Main Street	U.S. 101	No
19	Principal Arterial	Shoreline Highway (State Route 1)	U.S. 101	Flamingo Road	Yes
20	Principal Arterial	Bridgeway Blvd, Alexander Avenue	U.S. 101	U.S. 101	No
21	Basic Freeway	U.S. 101	San Francisco County Line	Shoreline Highway (SR 1)	No
22	Principal Arterial	Sir Francis Drake Blvd	Butterfield Rd	State Route 1	Yes
23	Principal Arterial	Sir Francis Drake Blvd	College Ave	Red Hill Ave	Yes
24	Principal Arterial	Novato Blvd	Wilson Avenue	Diablo Ave	No

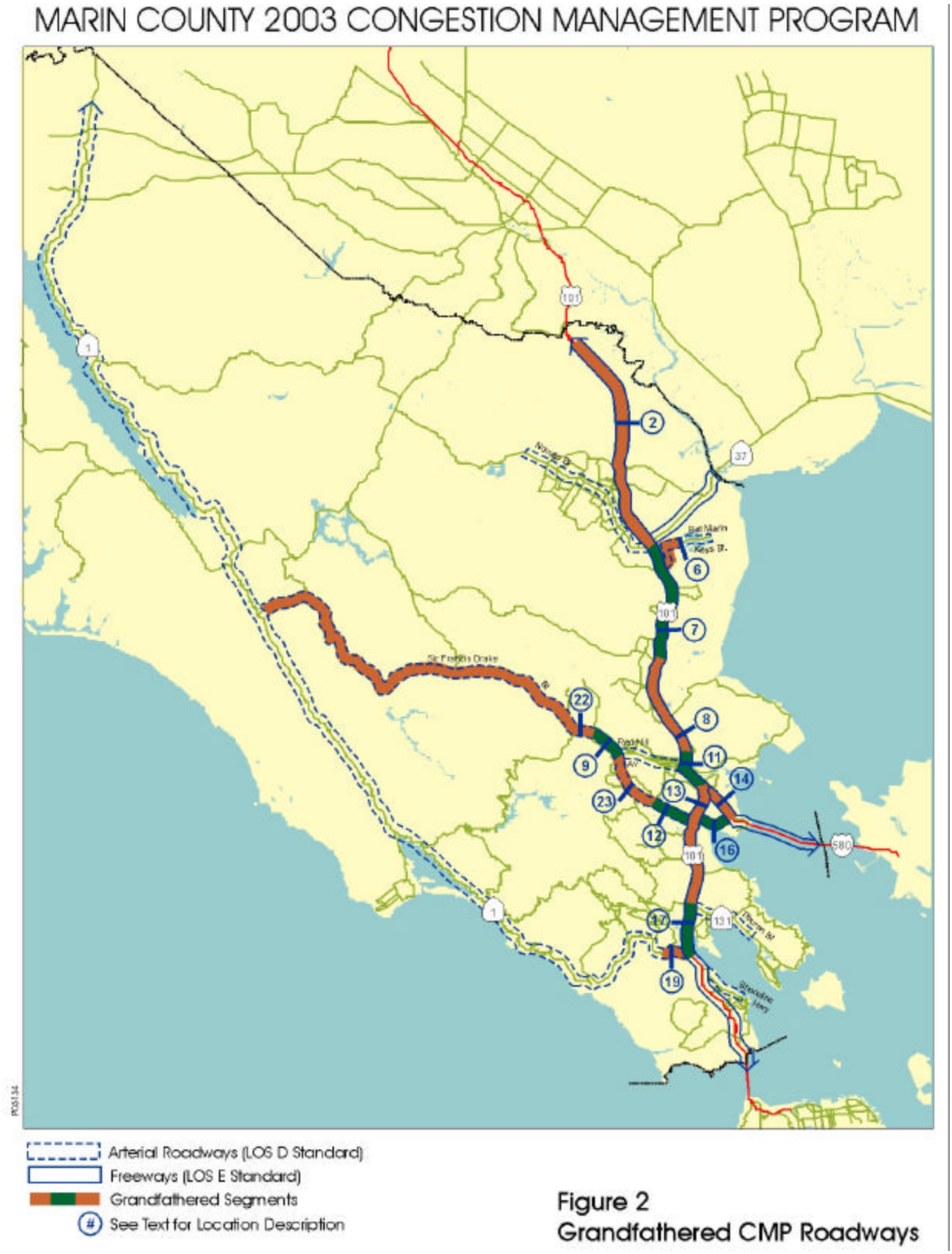

Figure 2
Grandfathered CMP Roadways

Table 2 – Actions Needed by Segment

#	Segment	Peak Direction LOS	Actions Needed
1	Shoreline Highway (State Route 1), from Flamingo Road to Sonoma County Line	A	Within LOS Standard; No Action
2	U.S. 101, from State Route 37 to Sonoma County Line	E	Grandfathered; Improvement Plan Needed; Included in Narrows and a Project Study Report PDS has been prepared and EIR/S is being prepared
3	Novato Blvd, from San Marin Dr/Sutro Ave to Wilson Avenue	A	Within LOS Standard; No Action
4	South Novato Blvd, from U.S. 101 to Novato Blvd	B	Within LOS Standard; No Action
5	State Route 37, from Sonoma County Line to U.S. 101	C	Within LOS Standard; No Action
6	Bel Marin Keys, from Arroyo San Jose to State Route 101	C	Grandfathered; No Action
7	U.S. 101, from N. San Pedro Road to State Route 37	D	Grandfathered; No Action
8	U.S. 101, from Mission Ave to N. San Pedro Road	F	Grandfathered; Improvement Plan Needed; A PSR has been drafted, the work is programmed and the project should be under construction in 2005
9	Sir Francis Drake Blvd, from Red Hill Ave to Butterfield Rd	E	Grandfathered; Improvement Plan Needed
10	Red Hill Ave, from Ross Valley Drive to Sir Francis Drake Blvd	D	Within LOS Standard; No Action
11	U.S. 101, from Interstate 580 to Mission Ave	F	
12	Sir Francis Drake Blvd, from U.S. 101 to College Ave	C	Grandfathered; No Action
13	U.S. 101, from Tiburon Blvd (SR 131) to Interstate 580	F	Grandfathered; Improvement Plan Needed; Project for the northern end of this segment is programmed and to be under construction in 1 year.
14	Interstate 580, from U.S. 101 to west of Sir Francis Drake Blvd	F	Grandfathered; No Action
15	Interstate 580, from west of Sir Francis Drake Blvd to Contra Costa Co Line	E	Within LOS Standard; No Action
16	E. Sir Francis Drake Blvd, from Interstate 580 to U.S. 101	F	Grandfathered; Improvement Plan Needed; Larkspur is proceeding with reconfiguration of the westbound approaches at the Northbound ramps as soon as the Marin 101 HOV project is through working in the area.
17	U.S. 101, from Shoreline Highway (SR 1) to Tiburon Blvd (SR 131)	D	Grandfathered; No Action
18	Tiburon Blvd (State Route 131), from Main Street to U.S. 101	C	Within LOS Standard; No Action
19	Shoreline Highway (State Route 1), from U.S. 101 to Flamingo Road	C	Grandfathered; No Action
20	Bridgeway Blvd, Alexander Avenue, and Sausalito Lateral Rd., from U.S. 101 to U.S. 101	C	Within LOS Standard; No Action
21	U.S. 101, from San Francisco County Line to Shoreline Highway (SR 1)	C	Within LOS Standard; No Action
22	Sir Francis Drake Blvd, from Butterfield Rd to State Route 1	F	Grandfathered; Improvement Plan Needed
23	Sir Francis Drake Blvd, from College Ave to Red Hill Ave	F	Grandfathered; Improvement Plan Needed
24	Novato Blvd, from Wilson Avenue to Diablo Ave	D	Within LOS Standard; No Action
Source: DKS Associates, 2003			

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CHAPTER 3 – PERFORMANCE MEASURES ELEMENT

3.1 Purpose and Intent of Legislation

The California Government Code requires the Congestion Management Agency to establish performance measures to evaluate current and future multimodal system performance for the movement of people and goods.[5] Consistent with the 2001 Marin County CMP, eight performance measures were included in this CMP and are described in this chapter. The measures in this chapter should not be confused with "standards," as no level of performance is required. Rather, a measure simply indicates the level of performance at a given time.

This first part of this section describes the current transit system in Marin. The next section describes the eight performance measures. The eight performance measures that are analyzed are:

1. Highway Level of Service
2. Peak-Hour Travel Time
3. Person Throughput
4. Vehicle Miles Traveled on Congested Highways
5. Jobs/Housing Balance
6. Transit Headways
7. Transit Coordination
8. Pedestrian and Bicycle Investment

The performance measures help determine whether the goals of the CMP are being met: supporting mobility, air quality, land-use, and economic objectives. The measures shall be used in the development of the Capital Improvement Program, deficiency plans, and the land-use analysis program. A *Performance Measures Monitoring Report* prepared in December 2003 contains detailed information on these measures.

3.2 Existing Transit Operations in Marin County

The transit network is comprised of a variety of services within Marin County. These include:

- General public transit bus service for both inter- and intra-county trips;
- General public ferry service, provided by two operators, serving trips between Marin County and San Francisco;
- Specialized transit services aimed at serving the needs of the elderly and disabled populations in the County; and
- Privately operated services, providing targeted service between specific locations, such as the service between Marin County and San Francisco International Airport.

[5] California Government Code Section 65089(b)(2)

The criteria used to establish CMP routes are:

- One-way, monthly ridership is greater than 5,000.
- Inter-county transit service using modes other than buses.

In addition, the following items support the choice of bus routes for the CMP:

- CMP basic service routes make up 99 percent of total Marin basic service ridership.
- CMP commute service routes make up 68 percent of total Marin commute service ridership.
- CMP local service routes make up 100 percent of total Marin local service ridership.
- CMP bus transit routes make up 88 percent of total Marin Golden Gate bus ridership.

The following sections provide a brief description of the transit services offered in Marin County.

3.2.1 General Public Transit Services

3.2.1.1 Golden Gate Transit

Golden Gate Transit (GGT) is the primary provider of public transit services in the county, serving both intra-county trips and travel between Marin County and Sonoma, San Francisco, and Contra Costa Counties. GGT services are operated by the Golden Gate Bridge, Highway and Transportation District. The District provides three major types of service: basic, local and commute.

The primary categories of bus service provided by GGT include:

- **Basic Service.** There are eleven "basic service" routes operating in Marin County. Basic service routes operate all day, seven days per week, providing wheelchair accessible trunkline service between the Transbay Terminal and Civic Center in San Francisco and various suburban centers within Marin and Sonoma Counties. Seven of these routes are included in the transit network for the CMP. They provide the "backbone" of service both within Marin County and between Marin and neighboring counties. Six of the original routes are Routes 10, 20, 40, 50, 70, and 80 (although some renumbering has recently been developed by GGT). Two other basic service routes, route 60 and route 90, do not operate as extensively and are not included in the CMP. Out of the total of 8.93 million passenger trips on basic-service routes in fiscal year 2002/2003, 8.87 million passenger trips were provided on CMP routes.
- **Commute Service.** This service provides 19 routes that operate on weekdays except holidays, between residential neighborhoods within Marin County and the San Francisco Financial District and Civic Center employment centers during the A.M. and P.M. commute periods. Commute service is generally operated in one direction only during commute hours and is not run at all during the midday and off-peak periods. Twelve of the 16 commute routes have been included in the CMP transit network. Out of the total

of 4.42 million passenger trips on commute-service routes in fiscal year 2002/2003, 3.02 million passenger trips were provided on CMP routes.

- **Local Service.** Twelve routes operate entirely within Marin County by contractual agreement with the Marin County Transit District and several school districts. Four of the local routes (Routes 1, 21, 23, and 35) were included in the CMP transit network. Out of the total of 3.026 million passenger trips on local-service routes in fiscal year 2002/2003, 3.025 million passenger trips were provided on CMP routes.

In addition to these primary bus services, GGT operates four additional services that have not been included in the CMP transit network. These are:

- **Recreational Service.** Two routes traveling between suburban centers located at basic trunkline bus connecting points and several of the principal parks and recreation areas in West Marin County. Schedules on these routes are adapted to the weekend and seasonal characteristics of the recreational travel demand.
- **Ferry Feeder Service.** Fifteen routes operate on weekdays except holidays, during commute hours between certain residential areas of Marin County and the three ferry terminals in Marin County, in Sausalito, Tiburon, Larkspur, and the San Francisco Ferry Terminals.
- **School Service.** Eight routes operate as this type of limited service. They operate within Marin County only on school days.
- **Special Service.** These routes are provided to the general public for certain special events throughout the year. These routes are not part of the permanent schedule and are not included in the transit network.

2003 Service Reductions. This section of the CMP describes recent changes to GGT bus and Golden Gate Ferry transit services in response to a financial shortfall in Fiscal Year (FY) 2003 and beyond. The Golden Gate Bridge, Highway and Transportation District (District) provides public bus and ferry transit services between San Francisco, Marin, and Sonoma counties, as previously described. The cost of these transit services is funded primarily from Golden Gate Bridge toll revenues that are surplus to the operating and capital needs of the bridge. Based on the determination that bridge toll revenues would not generate sufficient revenue to cover transit expenses, it became necessary to consider transit service reductions as an element of balancing the transit budget.

In March 2003, an initial, Phase 1 reduction of inefficient and low utilization bus services was implemented that reduced transit expenses by about $2 million annually. Phase 2 efforts to restructure GGT bus services and reduce underutilized, inefficient, and duplicative transit services to reduce transit system expenses by about $20 million annually was implemented in November 2003. In total, the Phase 1 and Phase 2 service reductions represent a reduction of approximately 175,000 annual service hours. District staff is examining several ideas for service add-backs that have been generated through public outreach to date. A summary of the impact of the service changes on peak hour service is illustrated on Table 3 at the end of this chapter.

3.2.1.2 Other General Public Transit Services

The Marin County Transit District operates the successful, weekday "Stagecoach" shuttle service in West Marin with about 80 riders per day. Other general public shuttle transit services operating are the "EZ Rider" in Novato and the "Sally" in Sausalito.

3.2.2 Specialized Transit Services

3.2.2.1 Whistlestop Wheels

The Marin County Transit District contracts with the Senior Coordinating Council to provide a local paratransit service known as "Whistlestop Wheels." Service is provided within the county seven days a week. Approximately 66,000 annual passenger trips are provided on local Whistlestop Wheels paratransit services.

Inter-county service is provided seven days a week, under an agreement with Golden Gate Transit and Marin County Transit District. The inter-county service area includes Sonoma, San Francisco, and Contra Costa counties in addition to Marin County. Over 66,000 passengers are transported annually on the inter-county paratransit service.

Services are available from 6 A.M. to 1 A.M., seven days a week. Approximately 40 lift-equipped vehicles are used to provide service, which is a door-to-door ridesharing program.

3.2.2.2 Other Specialized Providers

There are a number of other agencies that provide specialized transportation in Marin County. The vast majority of these services is provided as access to specific programs and is not used for general-purpose trips. These latter services are operated primarily by non-profit and volunteer organizations, and their eligibility criteria, cost, and availability vary widely.

3.2.3 Private Transportation Operators

3.2.3.1 Marin Airporter

Marin Airporter is the largest private provider of transit services in Marin County. Their service area includes Novato, Ignacio, Terra Linda, Larkspur, Mill Valley and Sausalito. Airport service to San Francisco International Airport is provided on a fixed schedule every 1/2 hour from 4:30 A.M. until 11:00 P.M. every day. In addition to the airport service, Marin Airporter manages a charter operation.

3.2.3.2 Santa Rosa Airporter

The Santa Rosa Airporter provides services between Marin County and both San Francisco International Airport and Oakland International Airport on a fixed hourly schedule.

3.2.3.3 Blue and Gold Fleet

Commute service and recreational service between Marin County (Tiburon) and San Francisco is provided on the Blue and Gold Fleet's Tiburon Ferry. Blue and Gold also provides recreational service between Marin County (Sausalito) and San Francisco (Fisherman's Wharf).

3.3 Performance Measures

The eight performance measures described below allow the CMA to measure the transportation system performance in Marin County.

3.3.1 Roadway Level of Service

This performance measure provides an overview of the operating level of the roadway system in Marin County. It is described in detail in Chapter 2.

3.3.2 Aggregate Peak Hour Travel Time

This performance measure will determine the amount of time required to travel through selected corridors on a variety of modes. Because single-occupant, high-occupant, and transit vehicles travel at different speeds, aggregate travel time between two points for all modes effectively describes the systems performance. To determine peak-hour travel times by single-occupant and high-occupant vehicles, travel time runs would be required for two given days at the peak hour in the peak direction. Transit schedules were used to determine travel times via buses. In Marin County, aggregate travel times were developed for four segments:

1. U.S. 101 between the Sonoma County line and San Rafael Transit Center
2. U.S. 101 between San Rafael Transit Center and the Golden Gate Bridge
3. Sir Francis Drake Boulevard between Butterfield Road and U.S. 101
4. Red Hill Avenue, Second and Third streets between Sir Francis Drake Boulevard and San Rafael Transit Center

3.3.3 Person Throughput

This performance measure identifies the number of people, not vehicles, who are able to move over a given facility in the peak period. As a combination of vehicle occupancy and level of service, this measure allows for recognition that transit service and HOV lanes can benefit corridor capacity. Roadways were defined in terms of vehicles per hour, and HOV lanes would be assumed to carry more persons per lane than a mixed-flow lane. Finally, buses would be defined as additional roadway capacity. This measure can be estimated for future years by analyzing Marin Travel Model outputs.

Existing conditions for this measure can be obtained through a monitoring process. Monitoring of this measure would require that the number of riders and the seats on buses in a peak hour in each direction be defined. It would require observing travel volumes, as well as the average

vehicle occupancy on a given mixed-flow or HOV lane. These locations are on CMP facilities that are representative congestion points, including:

- U.S. 101 between Interstate 580 and Central San Rafael
- U.S. 101 between Paradise Drive and the Tiburon Boulevard
- U.S. 101 north of Atherton Avenue
- Sir Francis Drake Boulevard west of U.S. 101
- Sir Francis Drake Boulevard north of Red Hill Avenue
- Red Hill Avenue east of Sir Francis Drake Boulevard

3.3.4 Vehicle Miles of Congested Highway

This performance measure, derived from the Marin Travel Model, measures vehicle miles traveled on congested segments of the freeway system in Marin County. Congested segments are highway segments at LOS E or worse (volume-to-capacity ratio greater than one). This measure provides an understanding of the relative extent of congestion on the freeway portion of the CMP roadway system.

3.3.5 Jobs/Housing (Employed Residents) Balance

This performance measure considers the balance between projected employed residents and projected jobs within different planning areas of the county. Achieving a balance between jobs and housing within a community or area can help the regional transportation system by reducing the length of trips and traffic congestion. This measure is discussed in more detail in Chapter 4.

3.3.6 Transit Headway

This performance measure presents the time intervals, or headways, between transit vehicles. Proper headways ensure that individual routes operate at frequencies that are appropriate to the type of service they provide and adequately address both existing and potential ridership demand.

3.3.6.1 Golden Gate Bus Service

Golden Gate Transit Bus Service has had a significant reduction in service that was implemented during 2003. Detailed information on current schedules may be viewed on the Golden Gate Bridge, Highway & Transportation District website at http://www.goldengate.org. Recent service changes implemented as a result of budget cuts and restructuring are summarized on Table 3.

Table 3 – Golden Gate Transit Bus Service Changes

Before March 2003			After December 2003		
Route	Route Type: Description	Approx Minimum Headway	Route	Route Type: Description	Approx Minimum Headway
1	Local: College of Marin to Novato	30 min	1	Cancelled (See Routes 29,55,57, & 59)	
2	Commute: Headlands to San Francisco	20 min	2	Commute: Headlands to San Francisco	26 min
3	Commute: Sausalito Ferry to Tamnalpais Valley	30 min	3	Commute: Sausalito Ferry to Tamnalpais Valley	
4	Commute: Mill Valley to San Francisco	20 min	4	Commute: Mill Valley to San Francisco	10 min
5	Commute: Mill Valley to Sausalito Ferry	80 min	5	Cancelled (See Route 10)	
8	Commute: Tiburon to San Francisco	20 min	8	Commute: Tiburon to San Francisco	34 min
9	Commute: Tiburon Ferry to Strawberry	50 min	9	Commute: Tiburon Ferry to Strawberry	50 min
10	Basic: Sausalito to Tiburon	30 min	10	Basic: Sausalito to Tiburon	60 min
11	Commute: Tiburon Blvd to Tiburon Ferry	50 min	11	Cancelled (See Route 9)	
13	Commute: East Corte Madera to Larkspur Ferry	30 min	13	Cancelled (See Route 15)	
15	Commute: College of Marin to Larkspur Ferry	30 min	15	Local: Strawberry to San Francisco	60 min
17	School: East Corte Madera to Hall Middle School	11 min	117	East Corte Madera to Neil Cummins School: to Hall Middle School	11 min
18	Commute: San Anselmo to San Francisco	10 min	18	Commute: College of Marin to San Francisco	20 min
19	Commute: Fairfax to Larkspur Ferry	15 min	19	Cancelled (See Route 29)	
20	Basic: San Rafael to San Francisco	25 min	20	Cancelled (See Routes 22, 23, 35, 70, & 80)	
21	Basic: Marin Gen Hospital to Mill Valley	30 min	21	Basic: Marin Gen Hospital to Strawberry	60 min
22	Did not exist		22	Basic: San Anselmo to Sausalito	60 min
23	Basic: Fairfax to Santa Venetia	30 min	23	Basic: Fairfax to San Rafael	30 min
24	Commute: Fairfax to San Francisco	6 min	24	Commute: Fairfax to San Francisco	5 min
25	Commute: Sleepy Hollow to Larkspur Ferry	37 min	25	Cancelled (See Routes 26 & 27)	
26	Commute: Sleepy Hollow to San Francisco	15 min	26	Commute: sleepy Hollow to San Francisco	14 min
27	School: Sleepy Hollow to White Hill School	9 min	127	Sleepy Hollow to White School	10 min
28	Commute: San Rafael to San Francisco	24 min	28	Cancelled (See Route 36)	
29	Commute: San Rafael to Larkspur Ferry	65 min	29	Basic: San Rafael to San Anselmo	30min
30	Basic: San Rafael to San Francisco	60 min	30	Cancelled	
31	Commute: San Rafael to Larkspur Ferry	30 min	31	Cancelled	
32	Commute: San Rafael to Larkspur Ferry	25 min	32	Commute: Peacock Gap to San Rafael	24 min
33	School: San Rafael to SR High to Peacock Gap	1 run	33	Basic: Santa Venetia to San Rafael	60 min
34	Commute: Santa Venetia to San Francisco	30 min	34	Commute: Santa Ventia to San Rafael	27 min
35	Basic: East San Rafael to San Rafael	30 min	35/36	Basic: East San Rafael to San Rafael to Marin City	15 min
37	Commute: Terra Linda to Larkspur Ferry	27 min	37	Cancelled (See Route 29)	
38	Commute: Terra Linda to San Francisco	9 min	38	Commute: Terra Linda to San Francisco	25 min
39	School: Terra Linda High to Lucas Valley	20 min	139	School: Lucas Valley to Terra Linda High	20 min
40	Basic: San Rafael to Del Norte BART	30 min	40/42	Basic: San Rafael to Del Norte BART	23 min
41	Commute: Lucas Valley to Larkspur Ferry	29 min	41	Cancelled	
43	School: Marin City to Tamalpais High	37 min	107	St Hillary's School: to Tamalpais High to Marin City	19 min
44	Commute: Lucas Valley to San Francisco	17 min	44	Commute: Lucas Valley to San Francisco	25 min
45	School: Tiburon to Redwood High	1 run	113/115	Paradise Cay/Tiburon to Redwood High	1 run
48	Commute: Novato to San Francisco	30 min	48	Cancelled	
50	Basic: San Marin to San Francisco	30 min	50	Cancelled (See Routes 10, 29, 53, 57, 59, 70, & 80)	
51	Commute: San Marin to Larkspur Ferry	26 min	51	Cancelled (See Routes 54 &58)	
53	Did not exist		53	Basic: San Marin to Novato	60 min
54	Commute: San Marin to San Francisco	2 min	54	Commute: San Marin to San Francisco	13 min
55	Did not exist		55	Local: Ignacio to Novato	60 min
56	Commute: Novato to San Francisco	11 min	56	Commute: Novato to San Francisco	15 min
57/59	Did not exist		57/59	Local: Novato to San Rafael	17 min
60	Commute: San Rafael to San Francisco (part of Rte 80)		60	Commute: San Rafael to San Francisco	30 min
63	Local: Marin City to Stinson Weekends	59 min	63	Local: Marin City to Stinson Weekends	123 min
70	Basic: Novato to San Francisco (part of Rte 80)		70	Basic: Novato to San Francisco (part of Rte 80)	
71	Commute: Santa Rosa to Larkspur Ferry	19 min	71	Cancelled	
72	Commute: Santa Rosa to San Francisco	3 min	72	Commute: Santa Rosa to San Francisco	5 min
73	Did not exist		73	Commute: Santa Rosa to San Francisco	29 min
74	Commute: Santa Rosa to San Francisco	9 min	74	Commute: Santa Rosa to San Francisco	21 min
75	Commute: Santa Rosa to East San Rafael	25 min	75	Commute: Santa Rosa to East San Rafael	23 min
76	Commute: Rohnert Park to San Francisco	6 min	76	Commute: East Petaluma to San Francisco	5 min
78	Commute: Santa Rosa to San Francisco	16 min	78	Cancelled	
80	Basic: Santa Rosa to San Francisco	29 min	80	Basic: Santa Rosa to San Francisco	29 min
90	Basic: Sonoma Valley to San Francisco	122 min	90	Cancelled	
93	Commute: Manzanita P&R to Mission St	10 min	93	Commute: GG toll plaza to Mission St	25 min
97	Commute: Larkspur Ferry to San Francisco	1 run	97	Commute: Larkspur Ferry to San Francisco	1 run
			126	School: San Rafael to Brookside Schools	9 min
			132	Peacock Gap to San Rafael High	1 run
			143	School: Sausalito to Tamalpais High	60 min

3.3.6.2 Golden Gate Transit Ferry Service

Golden Gate Transit operates ferry services from two ports in Marin County:

- Larkspur to San Francisco (45 minute peak headways)
- Sausalito to San Francisco (90 minute peak headways)

3.3.6.3 Blue and Gold Ferry Service

Blue and Gold Ferry operates from two ports in Marin County:

- Tiburon to San Francisco (50 minute peak headways)
- Sausalito to San Francisco (75 minute peak headways)

3.3.7 Transit Coordination

This performance measure considers the extent to which transit service is integrated between service types and modes and with other transit services within the county or in adjacent counties. The coordination of regional transit services enhances seamless regional transit travel. Transit schedule coordination can be measured at key transfer facilities between local and regional services.

3.3.8 Pedestrian and Bicycle Investment

The purpose of this measure is to ensure that pedestrian and bicycle travel is being accommodated in new transportation improvement projects. Because the Capital Improvement Program is a component of the CMP and pedestrian and bicycle improvements contribute to improved transportation system options, a separate measurement of pedestrian and bicycle improvement should be provided. This measure will reflect the extent that pedestrian and bicycle facilities are included in the design of all transportation projects, as appropriate, in the CMP's Capital Improvement Program.

CHAPTER 4 – TRAVEL DEMAND MANAGEMENT ELEMENT

4.1 Purpose and Intent of Legislation

California Government Code section 65089(b)(3) requires that a Travel Demand Management (TDM) element be a part of every CMP. Assembly Bill 2419, which became effective on January 1, 1997, eliminated the requirement for a "trip reduction" component to this element, leaving only the "travel demand" component. According to the revised CMP legislation, the TDM element should promote:

- Alternatives to the single-occupant automobile, e.g., carpools, vanpools, transit, and bicycles
- Increased use of park-and-ride lots
- Improvements in the balance between jobs and housing
- Other strategies for reducing vehicle trips, including flexible work hours, telecommuting, and parking management programs

The agency must also consider parking cash-out programs during the development and update of the travel-demand element.

Transportation Demand Management (TDM) focuses on reducing the number of vehicles on highways during peak periods through ridesharing, increased use of transit, and flexible work hours. Such measures can be integrated into the land-use planning process by providing incentives to developers, such as reduced parking requirements or reduced development impact fees when certain trip-reduction techniques are implemented. TDM is an approach to solving transportation problems by improving the efficiency of the existing transportation system by better managing the demand for transportation facilities. TDM views existing streets and highways, railways, parking facilities, bike and pedestrian facilities, and public and private vehicles as elements of a single transportation system. TDM attempts to organize these elements through operating, regulatory, and pricing policies into an efficient, productive, and integrated transportation system.

The responsibility for planning future land-use and zoning patterns and for reviewing proposed development plans rests with local government. Both the long-range planning and development-review phases of local planning offer opportunities for local governments to ensure that TDM measures are implemented. Although not required, local governments may choose to support (by resolution or other means) regional TDM measures, such as carpool lanes and ridesharing facilities that would be implemented by other agencies (e.g., Caltrans).

Peak-period traffic in Marin County is getting worse. The roads in the county, many of which were designed when the Bay Area's population was much lower, do not have the capacity to carry the demands placed upon them by motorists. Along with adding highway capacity and improving local transit service in response to this growing traffic, it is also important to improve the operating efficiency of the existing transportation system through TDM measures. The TDM element of the CMP has several goals including a coordinated countywide TDM program and the establishment of an on-going process that promotes local and regional planning to reduce traffic congestion.

4.2 Travel Demand Management in Marin County

The intent of this element is to give the widest possible range of choices to the County and its eleven cities in implementing the overall goal of reduced peak-hour usage of single-occupant vehicles. The TDM measures proposed fall into four broad categories:

- Traffic operation improvements that improve traffic flow. These improvements could come through such diverse sources as increased ridesharing or minor modifications to the highway system.
- Transit improvements that attract more riders to transit systems.
- Traffic mitigation measures that are intended to reduce the amount of traffic generated by a development or planning area and are applied through employers or developers.
- Land-use planning and regulation that seek to limit the demand for transportation or to mandate the implementation of traffic mitigation techniques through the land-use planning or approval processes.

These classifications overlap to some extent. For example, development permit approval may require traffic mitigation measures, and traffic mitigation may include greater use of public transit. The classification system focuses primarily on the entity responsible for implementation. Implementation responsibilities are shown in Table 4 below. In general, traffic operational improvements are implemented by state and local highway departments; transit improvements are the province of transit operators; traffic mitigation measures are implemented by employers or developers; and planning and regulatory techniques fall under the jurisdiction of local planning agencies. Effective traffic mitigation requires coordinated and systematic action by both the public and the private sectors.

Table 4 – Responsible Entities for Implementing Measures

Responsible Entity	Traffic Operational Improvements	Transit Improvements	Traffic Mitigation Measures	Land-Use Planning and Regulation
Cities	◆	◆	◆	◆
County	◆	◆	◆	◆
Caltrans	◆		◆	
Transit Operators		◆		
Private Sector		◆	◆	

Source: DKS Associates, 2003

4.3 Consistency with Pertinent Air Quality Plans, as Incorporated in the RTP

The Bay Area's Regional Transportation Plan (RTP) incorporates Transportation Control Measures (TCMs) contained in the federal and state air quality plans to achieve and maintain the respective standards for ozone and carbon monoxide. The statues require that the Capital Improvement Program (CIP) of the CMP conform to transportation-related vehicle emission air quality mitigation measures. CMPs should promote the region's adopted TCMs for the federal and state clean air plans. In particular, TCMs that require local implementation should be identified in the CMP, specifically in the CIP.

The Marin County CMP includes numerous project types and programs that are identified in the TCM plan. Table 5 below lists chapters of the Marin County CMP that address specific TCMs.

Table 5 – Correlation of Bay Area Clean Air Plan State/Federal TCMs with the Marin County CMP

TCM	Description	Where Addressed in Marin County CMP
S1, F9	Support voluntary employer-based trip reduction programs.	Chapter 4, Travel Demand Management Element
S3, F3	Improve area wide transit service.	Chapter 7, Capital Improvement Program
S5	Improve access to Ferries.	Chapter 7, Capital Improvement Program
S7	Improve Ferry Service	Chapter 7, Capital Improvement Program
S8, F4, F20	Construct Carpool/Express Bus Lanes on Freeways.	Chapter 7, Capital Improvement Program
S9	Improve bicycle access and facilities.	Chapter 7, Capital Improvement Program
S10	Youth transportation	Chapter 3, Performance Measures Element
S12	Improve arterial traffic management.	Chapter 7, Capital Improvement Program
S13, F21, F22	Transit Use Incentives	Chapter 3, Performance Measures Element
S14, F5	Improve rideshare/vanpool services and incentives.	Chapter 4, Travel Demand Management Element
S15	Local Clean Air Plans, Policies and Programs	Chapter 5, Land-Use Analysis Program
S19	Pedestrian Travel	Chapter 7, Capital Improvement Program
S20	Promote Traffic Calming Measures.	Chapter 7, Capital Improvement Program
F7, F8	Develop Park-and-Ride Lots.	Chapter 7, Capital Improvement Program
F24, F25	Maintain and Expand Signal Timing.	Chapter 7, Capital Improvement Program
Source: DKS Associates, 2003		

4.4 Support of the Jobs/Housing (Employed Residents) Balance Requirement

There is a growing emphasis throughout the state on encouraging communities to achieve a balance between job and housing growth as a technique to reduce traffic congestion. Ideally, from a transportation perspective, achieving such a balance would allow workers to live close to their job and to other services required on a daily basis. Banks, dry cleaners, and child care/school facilities are all types of things that could be within walking or biking distance. Reducing travel distance would result in shortening trips, reducing the number of trips required, and allowing residents to use alternatives to motorized vehicles for their transportation needs.

- The jobs/housing (employed residents) balance is frequently measured in terms of simple numerical ratios. Such a simple test does not fully reflect the complexity of the issue:
- Jobs/housing balance must balance worker wage levels with housing affordability. Policies that encourage high-cost housing and low-wage jobs do not result in balanced commuter flows.
- Jobs/housing balance must be viewed at the sub-regional and not just the municipal level. This is most true where cities are contiguous (or nearly so). For example, it would not necessarily be bad for one city to have a surplus of jobs over housing if a neighboring city were to have a surplus of housing over jobs, since these two communities are nearby.
- Even the best efforts to encourage balance may not always be successful.
- Jobs/housing balance must be one of several factors a local government considers in making land-use decisions. Other factors include maintaining a local government's fiscal solvency; providing appropriate densities around transportation corridors; providing affordable housing; and implementing strategies that balance travel demand, reduce congestion, and improve air quality.

One of the guiding objectives in The Marin Countywide Plan was the development of a balanced residential environment including access to jobs, community facilities, and road services. Historically, both population and the number of housing units in Marin grew rapidly before 1970, but since then growth has slowed. While population and housing growth were slowing in the 1970s and 1980s, job growth was accelerating. Since the 1960s, the cost of housing has increased dramatically, the median age of the local population has risen, and family size has decreased. Additionally, different growth rates for jobs and housing have caused a jobs/housing imbalance that contributes to increasingly severe traffic congestion along the U.S. 101 corridor (the main link between Marin County and counties to the north where housing costs are lower).

To reduce this imbalance, Marin County developed housing-related measures to encourage development of affordable housing in Marin County. This affordable housing development is necessary to meet the county's share of the growth in regional housing demand, and to enhance social and economic diversity within Marin County. Actions proposed in *The Marin Countywide Plan* to achieve jobs/housing goals include: encouragement of mixed-use development; provisions of more affordable housing; targeting job development to match the skills of Marin residents; employment training and retraining to meet labor market needs; and encouragement of trends which reduce the need to commute, such as telecommunications and home employment.

CHAPTER 5 – LAND-USE ANALYSIS PROGRAM

5.1 Purpose and Intent of Legislation

California Government Code Section 65089(b)(4) requires that a CMP contain a program to analyze the impacts of land-use decisions made by local jurisdictions on the regional transportation system (both highways and transit).

The Land-Use Analysis Program must include an estimate of the costs to mitigate impacts of development on the highway and transit systems. The legislation allows the cost of mitigating interregional travel (trips that do not begin in Marin County or trips that travel entirely through Marin County) to be excluded from the mitigation cost estimate. Public and private (developer) contributions to regional transportation improvements may be credited.

The law does not change the role of local jurisdictions in making land-use decisions and in determining the responsibilities of project proponents to mitigate those impacts. However, the CMA has the authority to withhold the gas tax subventions to local governments provided by Proposition 111 if a local jurisdiction fails to meet the requirements outlined in the Monitoring and Conformance chapter of the CMP (Chapter 8). Further guidance on the Land-Use Analysis Program can be found in the *Congestion Management Resource Handbook* (Caltrans, November 1990, pages 35-37).

The Land-Use Analysis Program is particularly important because it affects, or is affected by:

- The CMP Designated Transportation System and Roadway Level of Service Standards (see Chapters 1 and 2),
- Performance Measures (see Chapter 3),
- The Marin Travel Model, which is capable of analyzing land-use impacts on both highways and transit (see Chapter 6), and
- The Capital Improvement Program (see Chapter 7).

The intent of the Land-Use Analysis Program is to improve the linkage between local land-use decisions and regional transportation facility decisions; to better assess the impacts of development in one community on another; and to promote information sharing between local governments when the decisions made by one jurisdiction will have an impact on another.

The Land-Use Analysis Program in Marin County is a process designed to improve upon decisions about land-use and the spending of funds on highway and transit improvements in the county. The process is intended to work in a positive, cooperative fashion that supports the needs of local, county, regional and state governments.

The CMA acts as a resource to local governments in performing transportation analyses of land-use changes on the CMP designated transportation network. The Marin Travel Model is used to analyze local general plan updates and amendments and other major development decisions. The

California Environmental Quality Act (CEQA) provides a framework for such assessment. To avoid duplication, the Land-Use Analysis Program is intended to make maximum use of the CEQA process.

Cities can develop and maintain their own transportation models for use in local forecasting or impact analysis. However, their models should be approved by the CMA for consistency with countywide and regional transportation models.

5.2 Land Development Projects Subject to Analysis

Marin County has in place an inventory of proposed development projects, known as "PROPDEV." PROPDEV includes all projects with at least five residential units or at least 5,000 square feet of non-residential use. The PROPDEV database file covers 40 items of information including location, project sponsor, acreage, zoning, square feet of building area, and status of development application.

Projects at the low end of the PROPDEV threshold are generally too small to effectively analyze using the Marin Travel Model. Large projects requiring a city or county general plan update or amendment should, however, be analyzed using the model. This approach is particularly attractive for four principal reasons:

1. General plan updates and amendments are normally processed well before any construction takes place. This provides more time for transportation impacts to be analyzed and mitigation measures developed than would occur if the analysis took place closer to actual project construction.
2. Existing general plans have already been incorporated into the Year 2020 land-uses for the countywide model, as well as for the MTC regional travel model. Thus, any land-development project that conforms to the general plan should not materially alter the forecasted results generated by computer analysis already completed for the CMP. Only *changes* in (or amendments to) existing general plans could cause any significant change in the Year 2020 model forecasts.
3. A city or the county may consider general plan updates or amendments no more than four times during any year according to state law. This reduces the number of possible model runs that would be required.
4. Most (but not all) general plan updates or amendments are for developments of significant size.

5.3 The Land-Use Analysis Program: Analysis Tiering

A two-tiered information and analysis process of local land-use impacts is instituted by the CMP. Under “Tier I,” local governments forward information on proposed general plan updates or amendments to the CMA during the period when the local jurisdiction is reviewing the application. “Tier II” includes an biannual update of projected land uses for 10 years in the future to be used for modeling both traffic and transit impacts. This two-tiered approach is discussed in more detail below.

5.3.1 Tier I

For Tier I, local governments forward to the CMA information on all general plan updates or amendments concurrent with the local governments' approval process. By analyzing general plan updates or amendments rather than specific projects permitted under existing general plans, cities can proactively plan development by taking into account regional transportation impacts and providing ways to finance transportation costs in advance of development proposals. Every application for a general plan update or amendment or major development proposal that would generate a net increase or decrease of 100 vehicle trips during the P.M. (afternoon) peak hour is to be forwarded to the CMA for analysis. The local jurisdiction is responsible for determining which projects meet these criteria. The P.M. peak hour is most appropriate in Marin County because for most roadway segments, traffic levels of service are worse during the P.M. peak hour than in the A.M. peak hour. Examples of projects that typically meet the 100-trip threshold include 100 single-family homes, 150 apartment units, 5,000 square feet of retail space, or 40,000 square feet of office space.

Local jurisdictions are still responsible for reporting information for projects in the PROPDEV inventory, which has a significantly lower threshold for all uses except retail space. Small projects in PROPDEV below the 100-trip threshold do not warrant a run of the CMA's transportation model. Only large development proposals requiring general plan updates or amendments create a significant difference in the previously forecasted Year 2020 levels of service, which are based on the land-use assumptions of current general plans. The information on each general plan update or amendments that should be forwarded to the CMA includes:

- Precise location of the project(s), mapped, including street access location;
- Project land use(s) and number of dwelling units or square footage of development;
- Any available traffic studies, including trip generation rates assumed in determining whether the general plan update or amendment met the 100-trip threshold; and
- Expected occupancy of each land-use in Year 2020, with completion date and phasing.[6]

The CMA model run is to be incorporated into the local development review process. The local jurisdiction is responsible for identifying mitigations and costs as part of the Negative Declaration or Environmental Impact Report for the project. The local jurisdiction sends the environmental document to the CMA for referral and comment. The CMA provides data on the number and percentage of interregional trips on facilities for which mitigations have been recommended.

Following approval of the general plan update or amendment or qualifying major development proposal, the local jurisdiction sends final project information and documentation to the CMA so that the CMA can conduct "Tier II" of the Land-Use Analysis Program.

[6] General Plans normally focus on build out conditions. Since CMPs focus on a 7-Year CIP and a 7-10 year transportation modeling horizon, it is critical that the timing of development in the general plan update or amendment be addressed.

5.3.2 Tier II

The CMA biannually runs the countywide computer model on the updated land-use and transportation network information provided by the planning departments of each local government in Marin County. This analysis would be based on all general plan updates or amendments received during the past year, as well as an assessment of the actual amount of development likely to be in place 10 years in the future based on PROPDEV's listing of "Approved" projects. Local governments are also responsible for advising the CMA of all changes to the highway network and transit system based on their knowledge of developer mitigations, ordinance approvals, or changes to the circulation element of their general plan.

5.3.3 Tier I and Tier II Compliance

In order to comply with the requirements of Tier I and Tier II of the Land-Use Analysis Program, all jurisdictions in the county need to:

1. Annually (in accordance with the County PROPDEV update schedule):

   - Submit a complete account of all residential and commercial projects approved during the preceding year, and
   - Continue to participate in the County's PROPDEV inventory.

2. During CEQA scoping process, submit information on all general plan updates and amendments and major project proposals involving a net change (increase or decrease) of 100 or more P.M. peak-hour trips.

3. As appropriate:

   - Submit information on all highway network and transit system changes in their jurisdiction that result from: (1) project mitigations, (2) ordinance approvals, or (3) changes to the circulation element of their general plan.
   - Adopt traffic LOS standards that are consistent with or more restrictive than the LOS standards in the CMP.
   - Develop a 7-year Capital Improvement Program designed to meet the adopted LOS standards and support alternate modes of transportation.
   - Adopt local and regional development traffic mitigation fee programs consistent with requirements and intent of the CMP legislation. Low- and very low-income housing should specifically be exempt from mitigation fees. Development should be assessed only their fair share of improvements to regional facilities.
   - Participate in the CMA's TDM Program (outlined in Chapter 4).
   - Comply with monitoring and conformance requirements as outlined in Chapter 8.

5.3.4 Example of the Process

Entirely hypothetical examples are provided to show how this process would work:

1. Based upon the jurisdictions' land-use data provided to the CMA under Tier II and the proposed Capital Improvement Program, a run of the Marin Traffic Model indicates that there would be no further reductions in level of service below the standards adopted in the CMP. In that case, local jurisdictions would be free to make any land-use changes or approvals without CMA analysis, provided that whatever decisions they make are consistent with the information that has been provided to the CMA.

2. At some time in the future, a local government decides that it wishes to amend its general plan to include 100 acres of land that had formerly been included in the Tier II land-use information that had been given to the CMA. This area had been formerly zoned for agriculture but is proposed under the general plan amendment for single-family homes at six units per acre. These 600 proposed units would generate more than the threshold of 100 net new P.M. peak-hour trips, so the local government planning director, public works director, or traffic engineer forwards all of the general plan amendment application materials to the CMA. Because of the size of the project, the local government also decides to hire (or have the applicant hire) a traffic engineer to prepare a detailed, comprehensive study of the proposed general plan amendment.

   Under Tier I review, the CMA would make modifications to its land-use database used in the Marin Travel Model. The model would be run, including all highway and transit improvements (not just those on CMP designated facilities) for which funds seem reasonably secure, and also any improvements the applicant is willing to pay for as a condition of development approval. Assume that the model run indicates that some arterial segments of the CMP designated roadway system would operate worse than the LOS D standard as a result of general plan amendment approval.

   The CMA would forward this information to the local agency, which would consider the reduction in level of service in making their decision to approve or not to approve the general plan amendment. In developing conditions for project approval, the local jurisdiction would then have the option of:

   - Requiring additional mitigations from the developer, such as TDM measures (e.g., transit service, flex time, etc.), roadway improvements that would improve the LOS to the adopted standard, or other system improvements that would improve air quality as allowed by the CMP legislation.
   - Delaying the project until certain highway or transit projects are constructed.
   - Working closely with the CMA on development of a Deficiency Plan if it appears that a CMP system segment will not meet the adopted LOS standard.
   - Choosing not to implement any of the above measures and risk having the LOS not meet the adopted standard on certain roadway segments. In this case, the local government would risk losing the additional increment of gasoline taxes provided by Proposition 111.

5.4 Relationship of the Land-Use Analysis Program to CEQA

Local governments continue to have lead agency responsibility for performing Environmental Impact Reports and Negative Declarations and conducting transportation analyses as part of these documents. Local government should continue to propose and analyze mitigation strategies. The CMA may comment through the CEQA process, keeping local governments informed as to the adequacy of the analysis and approving any transportation models that are used for the analysis. The CMA may also provide local governments with information on cumulative impacts.

5.5 Congestion Management Agency Experience with the Process

The Congestion Management Agency has reviewed a number of land-use plans and projects since the adoption of the CMP. They include:

- Transportation Impacts of the Novato General Plan Revision (March 1996)
- Downtown Novato Redevelopment Plan Environmental Impact Report (February 1999)
- Hanna Oaks Center EIR – Rowland Extension Model Run (December 2000)
- 2000 Larkspur Landing Circle Project (September 2001)
- St. Vincent's Village Plan (April 2002)

In addition, the Countywide Planning Agency has also reviewed a number of land-use plans and projects. These reviews have demonstrated that the Land-Use Analysis Program as described above has generally been successful.

CHAPTER 6 – TRAVEL DEMAND MODEL

6.1 Purpose and Intent of Legislation

California Government Code Section 65089(c) requires that every CMA, in consultation with the regional transportation planning agency (MTC), cities, and the county, develop a uniform database on traffic impacts for use in a countywide travel demand model. It also requires that the countywide model be the basis for transportation models used for county sub-areas and cities, and that all models be consistent with the modeling methodology and databases used by the regional transportation planning agency. The CMA also approves sub-county area transportation models, and models used by local jurisdictions for land-use impact analysis, if local jurisdictions decide to perform this work on their own.

The purpose of this requirement is to guide the CMA decision making process in identifying the most effective balance of transportation programs and projects that maintain LOS standards. This includes the consideration of the benefits of transit service and TDM programs, as well as the need for projects that improve congestion on the CMP designated network. The modeling requirement is also intended to assist local agencies in assessing the impact of new development on the transportation system. The CMA will need to consider the nature of the analysis, functions of specific analytic tools, and its available resources when deciding how to fulfill this requirement of the statutes.

6.2 Local Agency Requirements

At this time, there are no specific requirements of local agencies, other than supplying the base-year land-use information that is noted in the land-use analysis chapter (Chapter 5). It is expected that Marin County will continue to operate its own countywide model, although cities may also create and use their own model, subject to the legislative requirements above.

The CMA staff support is continually refining and updating the Marin Travel Model. This includes meeting with MTC regularly to review model consistency procedures and participating in the regional Modeling Coordination Subcommittee of the Bay Area Partnership. This also includes periodically reviewing network and land-use assumptions for base and future years for every model run performed for the Land-Use Analysis Program.

NOTE: Many technical terms are used in this chapter. A glossary of terms has been included in Appendix B.

6.3 Introduction

A distinct and measurable relationship between travel demand, land-use patterns, and transportation systems is the basis for modern transportation planning practice. Transportation models were developed as the best tools available to quantify those relationships. The nature of those relationships is fairly complex, and research on more effective transportation modeling is still evolving.

The implementation of CMP legislation requires that a specific technical requirement be met: consistency with the regional model. This document is intended to explain the current status and development of consistency in Marin County modeling efforts and how the consistency issue corresponds to the other more traditional measure of model reasonableness – validation to actual traffic counts, regional trip patterns, and transit ridership.

6.4 Existing and Past Programs

The history of Bay Area modeling has been dominated by extensive travel behavior studies and model development by the Metropolitan Transportation Commission (MTC), the recognized Metropolitan Planning Organization for the Bay Area. MTC has had the charge and the funding at the federal level to develop models of travel behavior since the early 1970's. Marin County, in development of its own travel demand model, has built upon the information and logic from the MTC model.

The MTC is required to review any sub-regional model for consistency with the MTC model. Marin County staff assists with any revisions to the model. The remainder of this chapter contains the MTC checklist and responses for model consistency. Items from the MTC checklist are provided in *Italics* in Section 6.5 below.

MTC's goal is to establish a regionally consistent model "set" for application by MTC and the Bay Area CMAs. The Bay Area Partnership finalized a report on modeling consistency issues recommending that MTC develop and the CMAs incorporate a consistent set of model components on desktop computers (termed BAYCAST). For immediate use for this CMP, the study recommended that the current MTC checklist format be utilized, proposing specific tolerances. This revised MTC checklist incorporates the results of testing those specific tolerances, as well as additional analyses.

On August 12, 2003, the CMA submitted a letter to MTC regarding the MTC Checklist for Modeling Consistency. That letter includes additional information regarding the differences between the MTC model and the Marin Travel Model (MTM) that are not included in this document.

6.5 MTC Checklist for Modeling Consistency

This Checklist guides the Congestion Management Agencies through their model development and consistency review process by providing an inventory of specific products to be developed and submitted to MTC, and by describing standard practices and assumptions to be followed. North Bay counties are not subject to Products 3, 5, 12 and 15, although the assumption used should be described.

Because of the complexity of the topic, the MTC checklist may need additional detailed information to explain differences in methodological approach or data. Significant differences will be resolved between MTC and the CMA, taking advantage of the Modeling Coordination Working Group standard formats for model comparisons that were developed.

6.5.1 Incremental Updates

The Congestion Management Agency forecasts must be updated every two years to be consistent with MTC's forecasts. Alternative approaches to fully rerunning the entire model are available, including incremental approaches through the application of factors to demographic inputs or to trip tables. Similarly, the horizon year must be the same as the TIP horizon year; however, interpolation and extrapolation approaches are acceptable, with appropriate attention to network changes. These alternatives to full re-running of the model should be reviewed with MTC.

6.5.2 Defining the MTC Model Sets

Unless otherwise specified, the MTC model sets referred to below will be defined as those in use on October 1st of the year preceding the CMP update.

6.5.2.1 Approach to Travel Demand Modeling by the CMA

Describe the model, and its relationship to the MTC model. If the model is based on MTC's model, describe any adjustments to model constants, coefficients, k-factor or friction factor re-estimation, market segmentation, trip purposes, etc.

The CMA has operated and updated its own countywide travel demand model based on the information and logic from the MTC model. For the CMP, the Marin Travel Model (MTM) contains 117 traffic analysis zones (TAZs) within the county, 83 TAZs for San Francisco, 69 TAZs for Sonoma, and 24 TAZs corresponding with the MTC super-district level for other Bay Area counties. This model is prepared using EMME/2 software for the P.M. peak hour, A.M. peak hour, and Average Daily Traffic.

This model is a "focused" model, meaning that the network contains different structures inside and outside of the focus area. The inside or focused counties for the MTM are San Francisco, Marin, and Sonoma Counties. Other Bay Area counties are outside of the focused area. The primary difference is that the more detailed MTC network structure is included in focused areas, while a skeleton roadway network is structured outside of the focused areas. Because the network outside of the focused areas is reduced, the speeds on the skeleton roadway network are fixed (not variable depending on capacity) and are not expected to represent actual traffic volumes on those roadway links.

To ensure regional consistency, the MTM utilizes a technique referred to as "balancing." The balancing is done to guarantee that the trip-end estimates and forecasts are roughly equal between the MTC regional model and the MTM, and guarantees that the trip flows between counties are also equal between the two models.

The MTM mode-choice procedure occurs after the person-trip generation and trip-distribution steps. It includes a detailed mode-choice analysis that divides trips into transit-person trips, 2-person vehicle-person trips, 3+ person vehicle-person trips, or drive alone vehicle-person trips for home-based-work trips. Simpler formulas for vehicle-person trips are used for all other trip purposes, which are home-based shop/other trips, home-based social-recreational trips, home-based school trips, and non-home-based trips based on 1990 MTC Household Travel Surveys.

6.5.2.2 Demographic/Economic/Land-Use Forecasts

Use exact Association of Bay Area Governments (ABAG) Projections 2000 for other Bay Area counties, and control totals (within one percent) for the county for population, households, jobs, and employed residents. Congestion Management Agencies may reallocate growth forecasts within their own county in consultation with cities, MTC, and ABAG. The latest set of ABAG's Projections must be used for all new demographic databases developed for baseline travel demand forecasting purposes after August 1 of the year preceding the CMP update. Future year forecasts should address the latest available ABAG Projection series. MTC, in consultation with the Modeling Coordination Working Group, will develop factors that may be used to achieve consistency with the most recent ABAG demographics. Congestion Management Agencies may also, of course, analyze alternative land-use scenarios in addition to these forecasts. If a land-use based model is utilized, production and attraction comparisons will be made with the MTC model.

The MTM is based on ABAG *Projections 2000* land-use data for all Bay Area counties and is being updated to be based on ABAG *Projections 2003*. The MTM structure requires that land uses be allocated at a finer detail for Marin, Sonoma, and San Francisco counties than ABAG *Projections 2000* provides. In the disaggregating process, Marin County has recognized some inconsistencies in Marin County land uses by census tract and has made corresponding adjustments. Still, the overall land-use attributes for Marin County as a whole are consistent with ABAG. The difference between the MTM and ABAG *Projections 2000* is less than two percent for all the land-use categories. Land-use data outside of Marin was obtained from ABAG *Projections 2000,* so land-use information from the MTM is identical.

Future-year allocations by census tract provided by ABAG have been similarly refined. For this reason, individual census tracts do not contain land-use attributes identical to ABAG *Projections 2000*, but the overall county total for 2020 is consistent with ABAG.

6.5.2.3 Pricing Assumptions

Use MTC's auto operating costs, transit fares, and bridge tolls.

The MTM has made adjustments for these regional pricing assumptions:

- **Bridge Tolls.** The model is run with assumptions from ABAG Projections 2000. This assumes the $5.00 Golden Gate Bridge toll and $2.00 Richmond-San Rafael Bridge toll, adjusted to 1979 dollars.
- **Auto Parking Costs.** Auto parking costs have been kept at the 1979 fixed costs obtained from the 101 Corridor Study. The 101 Corridor Study set parking costs for San Francisco ranging from 50 cent per day to $2.60 per day in 1979 dollars. No other auto parking costs were assumed in the focused area.
- **Auto Operating Costs.** An auto operating cost of 12.99 cents per mile in 1979 dollars is assumed to confirm with the MTC model.

6.5.2.4 Network Assumptions

Use MTC's regional highway and transit network assumptions for other Bay Area counties. Congestion Management Agencies should include more detailed network definition relevant to their own county in addition to the regional highway and transit networks. For the CMP horizon year, to be compared with the TIP interim year, regionally significant network changes in the base case scenario shall be limited to the current Transportation Improvement Program (TIP) for projects subject to inclusion in the TIP.

The MTM was first developed in 1987 and was revalidated for 1998. The MTM uses the MTC model structure facility types and numbers of lanes for Marin County. Some additional detail in the roadway network has been added where appropriate within Marin County.

The MTM includes representations of these major roadway gateways in Marin County:

- Highway 101 – (Golden Gate Bridge) San Francisco
- Interstate 580 – (Richmond/San Rafael Bridge) Contra Costa County
- Highway 37 – Sonoma County
- Highway 101 – Sonoma County
- Highway 1 – Sonoma County

In addition, the ferry connections from Larkspur, Tiburon, and Sausalito to San Francisco are also provided as gateways.

Because of this model is a focused model, the East Bay and South Bay highway network are much less detailed than in the MTC model. A skeleton network in these locations significantly reduces run time for the model, as well as enables the model to be of a size small enough to be operated on Marin County computers. The impact of this network reduction is considered negligible to congestion in Marin County.

6.5.2.5 Auto Ownership Assumptions

Use MTC auto-ownership models or forecasts, or submit alternative models to MTC for review and comment.

The MTM utilizes MTC and ABAG information on auto ownership for mode split.

6.5.2.6 Trip Generation

Use the BAYCAST person trip generation models for home-based work and non-work, and non-home based trips, or submit alternative models to MTC for review and comment. Results may be adjusted sub-regionally through calibration or modal constant adjustments.

The MTM uses a household size and income quartile cross-classification modeling. The MTM then revises the results using adjustment factors designed to replicate actual MTC trip generation patterns between counties into the model. In this way, aggregate trip generation by county is also consistent with the MTC model. The difference in trip productions or attractions (by type of trip) between the MTM and the MTC model is never greater than 0.1 percent.

6.5.2.7 Trip Distribution

Work trip distribution models must be calibrated to the 1990 Census Journey-to-Work commuter matrices. Trip distribution results must be balanced to productions, and attraction-balancing problems should be discussed with MTC.

The MTM uses the MTC trip distribution patterns between counties. In this way, aggregate trip distribution by county is completely consistent with the MTC model. By utilizing this technique, Marin County has achieved a closer trip distribution match with the MTC model than is normally expected with this focused model structure. For home-base work trips, there is less than a one-percent difference in any of the model years. For all other trip types, the largest difference occurs in the year 2020, where a discrepancy of 0.6 percent occurs between the two models.

6.5.2.8 Mode Choice

If a logit mode choice model is to be used, MTC's BAYCAST should be used, or submit alternative methodology for MTC review.

The MTM mode choice analysis is consistent with MTC methodology. For home-based work trips, the MTM contains a Home-Based Work Mode Choice Model "TOT_TW." It contains a multinomial logit model structure for work trips, using drive alone, 2 person, 3+ person and transit. Non-work trips are assigned to auto and transit with auto occupancies inputted at this stage.

6.5.2.9 Traffic Assignment

Use capacity restraint assignment for peak-hour (or period) traffic assignments, or submit alternative methodology for MTC review.

The MTM provides A.M. peak, P.M. peak, non-peak, Average Daily Traffic, traffic and transit assignments similar to MTC methodology, with the same A.M. and P.M. peak-hour factor assumptions and external trip matrices.

6.6 Relationship to the Capital Improvement Program

The 2020 model run for the MTM includes all relevant projects listed in the State Transportation Improvement Program. These projects are incorporated into the 2020 base network in the MTM.

The MTM will be used for capital improvements programming. CMP statutes stipulate three criteria for projects selected for the Capital Improvement Program (CIP):

- To maintain or improve the traffic level-of-service and transit performance standards,
- To mitigate land-use impacts, and
- To conform to vehicle emissions air quality mitigation measures.

Toward that end, the model results will be used in ranking projects in the CIP chapter (Chapter 7), in preparing a project list for Regional Transportation Improvement Program consideration and for development and programming of any supplementary sources of revenue.

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CHAPTER 7 – CAPITAL IMPROVEMENT PROGRAM

7.1 Purpose and Intent of Legislation

California Government Code section 65089(b)(5) requires that a CMP contain a 7-year Capital Improvement Program (CIP) to maintain or improve the performance of the multimodal system for the movement of people and goods and to mitigate regional transportation impacts identified through the Land-Use Analysis Program. Capital improvement projects must conform to transportation-related vehicle emissions and air quality mitigation measures. These transportation control measures (TCMs) are contained in the *Bay Area 2000 Clean Air Plan*.

7.2 Relationship to the Regional Transportation Plan (RTP)

Since the CMP will ultimately be incorporated into the *Regional Transportation Plan* (RTP) Action Elements, projects selected for Marin County's CIP will need to be consistent with the assumptions, goals, policies, actions and projects identified in the RTP. The RTP is the basic statement of transportation policy by MTC. Because of the interdependence of transportation planning and land-use planning, a major effort was made by MTC to adopt policies that complement and support programs of federal, state, and regional agencies.

MTC is currently in the process of developing their 2005 RTP. This CIP is developed with information from the 2001 RTP.

7.3 Relationship to the Regional Transportation Improvement Program (RTIP)

The CIP is the basis for determining which projects are included in the Regional Transportation Improvement Program (RTIP). Inclusion of a project in the RTIP is the first step in obtaining a funding commitment from the State. Projects that MTC includes in the RTIP are then recommended to the California Transportation Commission (CTC) for inclusion in the State Transportation Improvement Program (STIP). If the CTC includes the project in the STIP, it has approved the project for the necessary environmental studies and project design, which ultimately lead to a final decision on whether or not to build the project. Projects that are to be included in the RTIP must be found consistent with the County's CMP. However, it is important to note that MTC is responsible for assembling the RTIP and that the RTIP is a funding-constrained document. This CIP is developed with information from the 2002 RTIP.

7.4 Relationship to Air Quality Attainment Plans

Marin County's CIP, included as part of the CMP, is closely related to air quality attainment plans. The *Bay Area 2000 Clean Air Plan* is the current adopted plan. A variety of Transportation Control Measures (TCMs) have been adopted as a part of this plan. MTC will give priority to the proposed projects that support or help implement any of the TCMs (see TDM Chapter 4 for more discussion on TCMs). Examples of such projects include high occupancy vehicle (HOV) lanes and ramp meter bypass lanes for HOVs.

7.5 Process and Criteria for Project Priority Ranking

In February 2003, the CMA, the Marin County Board of Supervisors, and the Marin County Transit District jointly produced *Moving Forward: A 25-Year Transportation Vision for Marin County* in February 2003. This document lays out the scope of transportation needs and desires for the County in specific areas, such as bicycle and pedestrian improvements, bus transit improvements, rail transit implementation, TDM expansion, regional highway improvements, and local street rehabilitation and maintenance. This document also addresses funding shortfalls and ways in which the County can pursue other funding sources.

In the RTP, the CMA has recommended that Track 1 (priority funding) improvements be allocated to projects as shown in Table 5 on pages 42 and 43. It is noted that Marin County resources are quite limited and local needs are not being fully addressed.

The CMA previously approved in the 2001 RTP that when new revenues are available effective with the 2002 STIP, the available balance for Marin County be distributed based on the following shares:

- City/County maintained roads – 60 percent
- Local transit projects – 10 percent
- Countywide U.S. 101 corridor projects – 25 percent
- Bicycle and pedestrian projects – 5 percent

In July 203, the CMA was notified by Caltrans that there was a $17 million shortfall in the U.S. 101 HOV Gap Closure project right-of-way acquisition budget. In preparation for adopting the 2004 STIP, the CMA suspended the above distribution formula and developed the following priorities:

1. Complete the U.S. 101 HOV Gap Closure project;
2. Maintain U.S. 101 widening ITIP match commitments for the Marin-Sonoma Narrows project;
3. Fund project planning, programming, and monitoring efforts; and
4. Use future discretionary state and federal funds available after completing the above to fund the $4.4 million of local projects being pushed out of the STIP funding.

The CMA also has indicated a desire to reconsider the 2001 RTP priority distribution if a transportation sales tax is approved by the Marin electorate to provide funding for local projects. A revised distribution would provide a much higher percentage of future STIP funds for county-wide U.S. 101 corridor projects.

Mainline U.S. 101 projects could also be eligible for other funds, such as the Interregional Transportation Improvement Program (ITIP), a possible sales tax or other regional tax mechanism, and even a possible regional mitigation fee if such a fee is adopted as part of the CMP.

Projects on Marin County's arterial roadway system, e.g., Sir Francis Drake Boulevard, will also continue to be a priority for scarce transportation funds. These projects are eligible for federal and state transportation funding programs and could also be eligible for funds from new local tax mechanisms or a regional mitigation fee if such a mechanism is adopted.

The CMA proposes to continue this same method of project prioritization that is familiar to and accepted by supervisors, council members, public works directors, planning directors, and the general public. Overall, transportation projects are likely to be guided by these integration principles:

- Consider all modes in a corridor simultaneously.
- Focus on "seamless" connectivity between modes to maximize utility of all improvements.
- Focus on connectivity between modes and eliminating unnecessary duplication.
- Recognize that any sales tax will only be part of the funding picture.
- Take advantage of the initial investment in a publicly controlled right-of-way by committing to a high-capacity transit project that maximizes use of the corridor by adding a multi-use pathway, where feasible.
- Consider opportunities for phasing to get results as early as possible.
- Consider contingency for projects unable to complete environmental clearance.
- Prioritize local transportation solutions (school bus, bicycle and pedestrian projects, bus transit, rail, and ferry) that bring people from neighborhoods in Marin County to destinations in Marin County.
- Provide for comprehensive TDM programs focused towards Marin County employers to encourage carpools and other higher occupancy vehicle commuting.
- Build on the current county-wide Safe Routes to Schools program bicycles, pedestrian programs and school busing that will encourage parents to stop driving their children to school.

For the CMP roadway network, a subset of projects also requires programming and funding. The procedure for identifying specific highway and arterial projects will consider:

- Improvements that reduce traffic congestion to acceptable levels for the most vehicles,
- Improvements that are the most cost effective,
- Improvements on facilities with higher existing traffic volumes,
- Improvements on facilities that are operating poorly based on existing traffic (not projected growth), and
- Improvements that are lower cost.

Two other considerations when identifying potential projects for purposes of this CIP are:

- **Operational characteristics.** If the project would result in shifting a capacity problem to another location, the effects of the downstream bottleneck are considered when setting priority for the project that ranks highest for cost effectiveness
- **Current deficiencies.** Projects that would eliminate existing deficiencies are prioritized above those that would eliminate future problems.

The lists of projects that result from this evaluation are shown in Tables 6 through 10 on the following pages. Table 6, pages 43 and 44, lists those Marin County projects in the 2001 RTP. Table 7, pages 45 and 46, lists those projects in the 2002 STIP and 2002 RTIP. Table 8, pages 47 and 48, lists those projects in the 2002 State Highway Operation and Protection Plan (SHOPP). Table 9, page 49, provides a summary of other unfunded, unprioritized projects. Although highway projects are severely constrained by funding limitations, a preliminary list of projects for which project study reports should be completed is provided in Table 10 on page 49.

Table 6 – 2001 Regional Transportation Plan Projects (RTP) in Marin County

Project Name	Project Description	Committed Funding	Track 1	Blueprint	Total Project Costs
Roadway Projects					
Local Pavement Maintenance	Local streets and roads pavement maintenance	$ 75,000,000			
Non-Pavement Maintenance	Non-pavement maintenance (sidewalks, lighting, drainage, landscaping, etc)	$ 222,800,000			$ 352,700,000
Local Bridge Maintenance	Local bridge maintenance	$ 14,600,000			
MTS Streets and Roads Pavement Rehabilitation Shortfall	Metropolitan Transportation System (MTS) streets and roads pavement rehabilitation shortfall		$ 11,600,000		$ 11,600,000
Non-MTS Streets and Roads Pavement Rehabilitation	Non-MTS streets and roads pavement rehabilitation shortfall		$ 31,900,000	$ 31,500,000	$ 63,400,000
Local Streets and Roads Non-Pavement Maintenance	Local streets and roads non-pavement maintenance shortfall		$ 1,300,000	$ 128,600,000	$ 129,900,000
Seismic Retrofit and Upgrade of Local Bridges and Overpasses	Seismic retrofit and upgrade of local bridges and overpasses shortfall		$ 3,200,000		$ 3,200,000
Route 37 Traveler Information System	Route 37 traveler information system		$ 300,000		$ 300,000
Golden Gate Bridge Seismic Retrofit	Golden Gate Bridge Seismic Retrofit -- Phases 1 through 3	n/a			
US 101 HOV Lanes	Add HOV lanes on US 101 from North San Pedro Road to Lucky Drive in San Rafael	$ 78,900,000			
Golden Gate Bridge Moveable Median Barrier	Add a moveable median barrier to the Golden Gate Bridge	n/a			
US 101/Lucas Valley Road Interchange Improvements	Improve Lucas Valley Road/US 101 interchange in San Rafael	$ 500,000			$ 23,187,000
Sir Francis Drake Boulevard Improvements	Improve Sir Francis Drake Boulevard	$ 3,500,000			
Tennessee Valley (Coyote Creek) Bridge Replacement	Replace Tennessee Valley (Coyote Creek) Bridge	$ 800,000			
Redwood Landfill Overcrossing	Add Overcrossing at Redwood Landfill	$ 3,500,000			
US 101/Tamalpias Interchange Improvements	Improve US 101/Tamalpias Interchange		$ 300,000		$ 300,000
US 101/Lucas Valley Road Interchange Improvements	Improve US 101/Lucas Valley Road Interchange	$ 3,000,000	$ 1,000,000		$ 4,000,000
US 101/Atherton Avenue Interchange Improvements: Signalize Atherton Avenue/Bidford Road Interchange	Improve US 101/Atherton Avenue interchange; Signalize Atherton Avenue/Bidford Road interchange	$ 300,000	$ 300,000		$ 600,000
Widen and Improve US 101	Add an HOV lane to US 101 in each direction from Route 37 to the Sonoma County Line and convert some portions from expressway to freeway (Sonoma-Marin Narrows project)	$ 17,400,000	$ 100,000,000		$ 117,400,000
US 101/Sir Francis Drake Boulevard Improvements	US 101/Sir Francis Drake Boulevard Improvements (environmental study only)	$ 1,800,000			$ 1,800,000
US 101/Interstate 580 Ramps	Add freeway-to-freeway connector from West I-580 to southbound US 101 and widen connector from West I-580 to northbound US 101		$ 8,300,000		$ 8,300,000
US 101/Tiburon Boulevard Interchange Improvements	Widen southbound off ramp of US 101/Tiburon Boulevard Interchange. Total Cost could be as high as $20,996,000 depending on the alternative that is selected	$ 800,000	$ 1,000,000		$ 17,753,000

In Table 5, “Track 1” refers to committed Local, State and Federal funding for a project, and “Blueprint” refers to funds that MTC might reasonably expect the counties to see through efforts like transportation sales taxes, a regional gas tax, increased State or Federal gas taxes or increased State or Federal spending on transportation.

Table 6 – 2001 Regional Transportation Plan Projects (RTP) in Marin County (continued)

Project Name	Project Description	Committed Funding	Track 1	Blueprint	Total Project Costs
Transit/Rail Projects					
Golden Gate Transit Operating and Capital Improvements	Transit operating and capital improvements program (including replacement, rehabilitation, and minor enhancements for rolling stock, equipment, fixed facilities and other capital assets; does not include expansion	$ 1,680,700,000			
Golden Gate Transit Capital Program	Golden Gate Transit capital program shortfall		$ 113,700,000		$ 113,700,000
Sonoma-Marin Rail Station Site Acquisitions/Upgrades	Sonoma-Marin Rail Station site acquisitions/upgrades	$ 600,000			
Express Bus Program: US 101/Santa Rosa to San Rafael/San Francisco	Express Bus Program: US 101/Santa Rosa to San Rafael/San Francisco	$ 400,000			
Local Marin Bus Service Enhancements	Enhance local Marin bus service (capital only)	$ 10,000,000	$ 31,900,000		$ 41,900,000
North Coast Railroad Authority (NCRA) Track Maintenance and Rehabilitation	North Coast Railroad Authority (NCRA) track maintenance and rehabilitation		n/a		
Expand Manzanita park-and-ride lot	Expand Manzanita park-and-ride lot	$ 4,700,000	$ 6,000,000		$ 10,700,000
Pedestrian and Bicycle Projects					
Bicycle and Pedestrian Projects	Bicycle and pedestrian projects	$ 8,100,000			
Bicycle and Pedestrian Projects	Bicycle and pedestrian projects (from Countywide Master Plan)		$ 2,400,000		$ 2,400,000
Countywide Projects					
Transportation for Livable Communities	Transportation for Livable Communities -- County Program		$ 5,000,000		$ 5,000,000
Surface Transportation Program Planning Funds for the County	Surface Transportation Program planning funds for the county		$ 1,600,000		$ 1,600,000
Travel Demand Management Program	Travel Demand Management Program		$ 2,500,000		$ 2,500,000

In Table 5, “Track 1” refers to committed Local, State and Federal funding for a project, and “Blueprint” refers to funds that MTC might reasonably expect the counties to see through efforts like transportation sales taxes, a regional gas tax, increased State or Federal gas taxes or increased State or Federal spending on transportation.

Table 7 – 2002 RTIP and 2002 STIP Projects in Marin County

Element	Responsible Agency	Project Title	Description	2002 RTIP	2002 STIP	Schedule	Cost
Capital Outlay	Caltrans	Route 101 Reversible HOV Lane - Segments 2,3, and 4	Reversible high occupancy vehicle lane on US 101 from Cal Park to North San Pedro Road		X	02/03[1]	$ 9,025,000
				X	X[3]	03/04	$ 49,082,000
Capital Outlay	Caltrans	Route 101 Novato Narrows Freeway Upgrade	Widen 4-lane expressway to 6-lane freeway for HOV lanes on US 101 from 1.5 km north of Atherton Avenue to Marin/Sonoma County Line		X	05/06	$ 13,800,000
Highway - Bridge	Caltrans	Richmond-San Rafael Bridge	Richmond and San Rafeal: Richmond-San Rafael Bridge; Replace existing concrete deck.	X		03/04	$ 34,513,000
				X		04/05	$ 1,513,000
				X		After 04/05	$ 13,049,000
Highway - Other	Caltrans	Access Management Program	Access Management Program for Rt 1, from 101 to Stinson Beach and Tennessee Valley Rd for access to Golden Gate, Mt. Tamalpias, and Stinson Beach Recreation Areas	X		After 04/05	$ 2,803,000
Local Assistance	City of Belvedere	San Rafael Avenue Overlay	Pavement overlay and repair along San Rafael Avenue from Tiburon Blvd to West Shore Road	X	X	05/06	$ 82,000
Local Assistance	City of Corte Madera	Corte Madera Various Streets Rehabilitation	Rehabilitate pavement on Fifer Avenue, Lucky Drive and Nellen Avenue		X	05/06	$ 103,000
Local Assistance	City of Fairfax	Fairfax Various Streets Rehabilitation	Rehabilitate pavement with overlay and make improvements to gutter and curb allowing for better drainage on Dominga Avenue, Bridge Court and Baywood Court	X		03/04	$ 131,000
					X	05/06	$ 133,000
Local Assistance	City of Mill Valley	Mill Valley Various Road Rehabilitation	Rehabilitate pavement on Azalea Drive from Vasco to Aster, Vasco from Azalea to Stanton	X		03/04	$ 30,000
				X	X	04/05	$ 272,000
Local Assistance	City of Novato	Various Streets Pavement Rehabilitation	Rehabilitate pavement on various street throughout the city	X	X	04/05	$ 660,000
Local Assistance	City of Ross	Sir Francis Drake Blvd & Lagunitas Road Rehabilitation	Overlay roadway and replace traffic loop on Sir Francis Drake Blvd from Berry Lane to Lagunitas Road and on Lagunitas Road from Sir Francis Drake Blvd to Bridghe	X	X	05/06	$ 71,000
Local Assistance	City of San Anselmo	Greenfield Avenue Rehabilitation	Rehabilitate pavement along Greenfield Avenue from Sir Francis Drake Blvd to Greenfield Court	X		03/04	$ 50,000
					X	04/05	$ 25,000
				X		05/06	$ 169,000
					X	05/06	$ 194,000
Local Assistance	City of San Rafael	San Rafael Various Street Rehabilitation	Rehabilitate pavements on various streets	X	X	05/06	$ 820,000
Local Assistance	City of Tiburon	Tiburon Mar West Street Rehabilitation	Rehabilitate pavement on Mar West Street between Tiburon Boulevard and Esperanza	X	X	05/06	$ 144,000
Local Assistance	City of Tiburon	Pine Terrace Multi-Use Path Improvements	Construct ADA-compliant pedestrian improvements on path between Bay Trail and Tiburon Blvd near Pine Terrace	X	X	05/06	$ 90,000
Local Roads	FHWA	Chimney Rock Lighthouse Rehabilitation.	Marin County; Chimney Rock and Lifeboat Station Roads; Reconstruct and Widen Lighthouse Roadway.	X		After 04/05	$ 6,055,000
Highway - Bridge	GGBHTD	Golden Gate Bridge Moveable Barrier	Golden Gate Bridge: Install/Construct Moveable Median Barriers.	X		04/05	$ 7,000,000
Highway - Bridge	GGBHTD	Golden Gate Bridge - Suicide Deterrent	Golden Gate Bridge: Install, Construct, and Manage Suicide Deterrent facility.	X		04/05	$ 3,000,000
Mass Transit - Bus	GGBHTD	Acquire 132 Bus Catalyst Devices	GGBHTD: Acquire and install bus catalyst devices on 132 agency buses.	X		03/04	$ 665,000
				X		04/05	$ 545,000
Mass Transit - Bus	GGBHTD	GGBHTD Bus Radio System Replacement	GGBHTD: Replace radio system on agency fleet.	X		03/04	$ 7,220,000

Table 7 – 2002 RTIP and 2002 STIP Projects in Marin County (continued)

Element	Responsible Agency	Project Title	Description	2002 RTIP	2002 STIP	Schedule	Cost
Mass Transit	GGBHTD	GGBTD Regional Express Bus Operations	Marin; GGT: Operating support for the Regional Express Bus service on the Route 101 Corridor (Service Expansion).	X		03/04	$ 319,000
				X		04/05	$ 397,000
Mass Transit - Ferry	GGBHTD	Ferry channel & berth dredging.	GGBHTD: From San Francisco to Marin County; Dredge ferry channel and berth.	X		03/04	$ 2,058,000
Mass Transit - Paratransit	GGBHTD	Replace 2 Paratransit Vans	GGBHTD: Replacement two paratransit vans with standard conversion vans.	X		03/04	$ 142,000
Mass Transit - Other	GGBHTD	GGBHTD San Francisco Ferry Term. Rehab	San Francisco: Along the Embarcadero btw Piers 1 and 2 at Golden Gate Ferry's San Francisco Terminal: Rehabilitate facilities.	X		After 04/05	$ 2,250,000
Mass Transit	Marin County	Marin County Bus Stop Improvements	Various improvements to selected local bus stops throughout Marin County		X	05/06	$ 89,000
Local Assistance	Marin County	Sausalito to Mill Valley Multiuse Path Rehab	Rehabilitate primary bicycle path between Mill Valley and Sausalito	X	X	05/06	$ 151,000
Local Assistance	Marin County	Countywide Bicycle Signage and Striping	Install bicycle signs and stripe path at various locations	X	X	05/06	$ 151,000
Local Assistance	Marin County	Marin County Various Local Roads Rehab	Rehabilitate pavement on various local roads	X	X	04/05	$ 150,000
				X	X	05/06	$ 1,716,000
Local Assistance	Marin County	Paratransit Dispatch Improvements	Implement Mobile Data Terminals (MDT) and Automate Vehicle Locators (AVL) for Americans with Disabilities Act (ADA) mandate paratransit service		X	05/06	$ 400,000
Other	Marin County	CMA Planning Activities	Marin: Support for CMA Planning Activities. Funding Includes 3% Planning Set-Aside.	X		03/04	$ 390,000
				X		04/05	$ 491,000
Local Assistance	MTC	Planning Programming and Monitoring	Plan, program and monitor		X	02/03[1]	$ 18,000
					X	03/04	$ 18,000
Local Assistance	MTC	Regional Rideshare Program	Regional rideshare program		X	02/03[1]	$ 100,000
					X	03/04	$ 104,000
Local Assistance	MTC	CMAQ Match Reserve	Reserve (Congestion Mitigation and Air Quality match)		X	02/03[1]	$ 115,000
					X	03/04	$ 115,000

Notes
1) These funds have already been spent
2) The 2002 STIP listed $131,000 in funds for 05/06
3) The 2002 STIP listed $41,310,000 in funds for 03/04
4) Some projects programmed for the current fiscal year may not yet be delivered in part due to the state fiscal crisis, but many are still on track to be delivered in the near future. They have advanced construction authorization and if the local agencies are confident that the state will reimburse them for those prjects, the local agencies will proced with construction and implementation.

Funding of all listed FY 03/04 projects listed in the table above has been zeroed and the California Transportation Commission estimates that the availability of funds in the future will be $1.4 M in FY 04/05, $14.0 M in FY 05/06, $11.8 M in FY 06/07, and $1.6 M in FY 07/08, at which time Marin County will have $0.52 M to repay Napa for a 2002 RTIP loan, and $38.3 M, which will be enough to proceed with the $29.7 M ($33.4 M escalated) cost of the Downtown to I-580 phase of the U.S. 101 Gap Closure project with $4.9 M surplus. That surplus should be considered for: 1) the phase from North San Pedro Road to Downtown $19.7 M escalated to FY 08/09; 2) the Narrows where we have a $2.2 M commitment in the FY 03/04 RTIP; or 3) the local projects from the table. In FY 08/09, Marin County is estimated to receive another $6.6 M, which would yield $11.5 M. A lower cost phase of railroad ROW relocation and soundwall construction could possibly be programmed and keep the outer phase in the STIP until we have enough to finish building it.

Table 8 – 2002 State Highway Operational and Protection Plan (SHOPP) Projects in Marin County

Element	Responsible Agency	Project Location	Description	2002 SHOPP	Schedule
Safety Improvement	Caltrans	Near Mill Valley - southbound off-ramp to East Blithedale	Widen ramp for an additional lane and at	X	04/05
Run-off the Road Improvement	Caltrans	On various routes, at various locations	Upgrade traffic barrier and guardrail end	X	07/08
Median Barrier Upgrade	Caltrans	Route 101 Near Sausalito - north of Golden Gate Bridge	Upgrade metal beam barrier to concrete	X	02/03
Bridge Rehabilitation	Caltrans	221 Olema Creek #27-0020	Replace bridges	X	06/07
Bridge Rehabilitation	Caltrans	Estero Americano - Replace Bridge #27-0028	Replace bridge	X	07/08
Major Damage Restoration	Caltrans	SR 1 Near Stinson Beach - Slide Ranch to Stinson Beach	Soil nail wall and grading	X	02/03
Major Damage Restoration	Caltrans	Route 101 Near Petaluma- at Marin County line	Stabilize slope	X	02/03
Major Damage Restoration	Caltrans	Near Mill Valley	Repair slide	X	02/03
Major Damage Restoration	Caltrans	SR 1 Near Olema	Repair slide	X	03/04
Major Damage Restoration	Caltrans	SR 1 Near Tomales	Repair slide	X	03/04
Major Damage Restoration	Caltrans	SR 1 At Stinson Beach	Repair slide	X	03/04
Drainage System Rehabilitation	Caltrans	SR 1From Mill Valley to Tomales	Drainage Improvement	X	06/07
Bridge Scour Mitigation	Caltrans	Route 101 San Rafael Viaduct #27-0035R	Scour	X	08/09
Roadway Rehabilitation	Caltrans	Route 101 TO Main Street	Roadway Rehabilitation	X	06/07
Roadway Rehabilitation	Caltrans	Route 101 to Sonoma County line	Roadway Rehabilitation	X	07/08
Roadway Rehabilitation	Caltrans	I-580 Richmond Bridge to Route 101	Roadway Rehabilitation	X	07/08
Roadway Rehabilitation	Caltrans	From 0.5 Miles North of Cypress Road to 0	Roadway Rehabilitation		09/10
Roadway Rehabilitation	Caltrans	SIR I	Roadway Rehabilitation	X	10/11
Roadway Rehabilitation	Caltrans	SR 1	Roadway Rehabilitation	X	11/12
Transportation Management Systems	Caltrans	Route 37 Near Novato, Sears Point and Vallejo	Install traffic operating systems	X	04/05
Transportation Management Systems	Caltrans	SF101 Van Ness to SF Co, MRN 101Mrn Co to Delong	Extend Fiber System, congested Spec, Install TMS elements	X	06/07
Transportation Management Systems	Caltrans	Ala 580 13 to 238, MRN 580 MRN Co to 101	Complete redundant 580 link, ring to Marin	X	07/08
Transportation Management Systems	Caltrans	Golden Gate corridor in Marin County on Rte 101	Install TMS Elements (Monitoring, Stations, CCTV, CMS, HAR)	X	10/11
Transportation Management Systems	Caltrans	San Rafael Bridge Corridor in Marin Co on Rte 580	Install TMS Elements (Monitoring, Stations, CCTV, CMS, HAR)	X	10/11
Transportation Management Systems	Caltrans	North Bay East-West Corridor in Marin Co on Route 37	Install TMS Elements (Monitoring, Stations, CCTV, CMS, HAR)	X	10/11
Transportation Management Systems	Caltrans	Golden Gate Corridor TMS Signal Interconnect In Marin on Route 131	Signal Locations	X	10/11
Transportation Management Systems	Caltrans	Golden Gate Corridor TMS Signal Interconnect In Marin	Signal Locations	X	11/12
Operational Improvement	Caltrans	in MRN Co on Rte 101 in Novato from 0.3 KM N. of Ignacio Blvd	Widen and restripe to provide an Auxiliary lane	X	02/03
Operational Improvement	Caltrans	In Marin Co on Rte 101 approx 6.4 Km N. of the City of Novato	Construct overcrossing	X	03/04
Operational Improvement	Caltrans	In Marin Co: on Rte 101 from Paradise on-ramp to Lucky	NB Aux Lane	X	08/09
Operational Improvement	Caltrans	In MRN Co. on Rte 101 from Sir Francis Drake to Andersen	SB Aux Lane	X	08/09
Operational Improvement	Caltrans	In MRN Co. on Rte 101 from Manuel Freitas Pkwy. To North San Pedro	SB Aux lane	X	08/09
Operational Improvement	Caltrans	In MRN Co Lucas Valley Rd. to Marinwood	SB Aux lane	X	08/09
Operational Improvement	Caltrans	In MRN Co. an Rte 101 from Miller Creek Rd to S/0 – Truck scales	SB Aux Lane	X	08/09
Operational Improvement	Caltrans	In MRN Co. on Rte 101 from Nave Rd. on-ramp to SR37	NB Aux lane	X	08/09
Operational Improvement	Caltrans	In MRN Co. on Rte 101 from SR 37 off-ramp to SR 37	NB Aux lane	X	08/09
Operational Improvement	Caltrans	In MRN Co. on Rte 101	Corridor TMS	X	08/09

Table 8 – 2002 State Highway Operational and Protection Plan (SHOPP) Projects in Marin County (continued)

Element	Responsible Agency	Project Location	Description	2002 SHOPP	Schedule
Roadway Protective Betterment	Caltrans	Various locations in Marin county	Fire strip	X	08/09
Maintenance Facilities	Caltrans	Manzanita MS	Relocate & reconstruct MS	X	10/11
Highway Planting Restoration	Caltrans	In Sausalito, Marin , Corte Madera –0.3 miles south of Spencer	Restore planting and irrigation (portions)	X	03/04
Highway Planting Restoration	Caltrans	In San Rafael – Richmond San Rafael Bridge to Bellam Blvd	Restore planting & upgrade irrigation	X	09/10
Highway Planting Restoration	Caltrans	In Tiburon, Mill Valley, Corte Madera, and San Rafael from Jct.	Restore planting & upgrade irrigation	X	11/12
Signs Light Rehabilitation	Caltrans	In SCL, MRN, SF and SON Counties on Rte 101	Install EXIT number signs	X	06/07
Signs Light Rehabilitation	Caltrans	At locations on various routes	Overhead sign upgrade	X	07/08
Bridge Rail Replacement / Upgrade	Caltrans	BR#27-0073R/L, 0074	Bridge Rail Replacement/Upgrade	X	06/07
Pavement Preservation	Caltrans	Near Mill Valley on Rte 1 from Jct 101	RAC	X	06/07
Pavement Preservation	Caltrans	In & Near Sausalito, Corte Madera, Larkspur	AC Overlay	X	06/07
Pavement Preservation	Caltrans	To 2.2 KM N of Tomasini Canyon Bridge	RAC	X	06/07
Pavement Preservation	Caltrans	On Rte 101 From 0.05 KM North of Corte Madera	AC Overlay	X	08/09
Pavement Preservation	Caltrans	South Novato Blvd to Sonoma Co line	0.1' OGAC	X	09/10

Table 9 – Unprioritized Marin County Projects Recommended for Future Funding from Local Sources[1]

Project Description[2]	Cost
SR 1 – Widen and improve signals between Flamingo Road and US 101	$6,030,000
Sir Francis Drake Boulevard – Modify signals from Red Hill Avenue to Olema Road	$2,770,000
US 101 – New interchange at Nellen Drive[3]	$14,500,000
US 131 – Widen overcrossing to 6 lanes (divided with dual SB ramps) from US 101 to Redwood Frontage Road	$18,000,000
I-580 – Relocate Bellam Boulevard interchange overcrossing[3]	$20,200,000
I-580/US 101 – New bridge from west I-580 to south US 101	To be determined
I-580/US 101 – New lane west I-580 to north US 101 to 2nd Avenue	To be determined

Notes:
1) Unprioritzed, unfunded projects that could be funded by:
   *Flexible Congestion Relief
   *Transportation Sales Tax
   *Regional Impact Fees
   *TSM Funds
   *Other Local Funding Sources
2) All projects should be multi-modal in nature and consider improvements for other modes, such as bus stops and bicycle and pedestrian access improvements.
3) Local funding anticipated

Table 10 – Potential Marin County Projects Without Project Study Reports (PSR) Completed[1]

Project Description
I-580/US 101 Interchange – Improve I-580 west
US 101 – Improve Tiburon Boulevard interchange from Tower Avenue to Redwood Frontage Road
US 101 – Larkspur/Corte Madera interchanges (Sir Francis Drake Boulevard to Tamalpais Avenue)[2]
US 101 – Atherton Avenue interchange
US 101 – Sausalito (Alexander Avenue) interchange
US 101 – Marinwood Avenue interchange
SR 37 – Lakeville Road to US 101
SR 1 – US 101 to Flamingo Road

Notes:
1) MTC and Caltrans District 4 policy is to complete PSRs for projects in the RTP first.
2) This PSR will include the Cal Park Hill Tunnel reopening and Central Marin Ferry Connection bicycle and pedestrian projects that are components of the Greenbrae Interchange project listed in Regional Measure 2.
3) All projects should be multi-modal in nature and consider improvements for other modes, such as bus stops and bicycle and pedestrian access improvements.

7.6 Transit Projects

The CMA continues to support the enhancement of transit facilities through its support of the Golden Gate Bridge, Highway, and Transportation District's Five-Year Short-Range Transit Plan. The plan includes bus replacement, improvements to the bus facilities, and enhancement to ferry terminals. Funding for these projects has been identified from a variety of sources, including the Federal Transit Administration formula grants, STP/CMAQ funds, and State funds. The CMA also continues to support the development of the Northwestern Pacific rail right-of-way. This right-of-way will enable Marin to use the corridor to provide an alternative transportation route to the congested highway, U.S. 101. Sonoma Marin Area Rail Transit (SMART), a joint effort between Sonoma County and Marin County, is currently developing a proposal for startup rail service between San Rafael and Healdsburg/Cloverdale. Specific technology, station locations, operating plans, and funding recommendations are being studied. This project is included in the Regional Transit Expansion Program adopted by MTC (Resolution No. 3434). The completion of this project is dependent on funding a significant proportion of the cost through a local source, such as a local sales tax.

The CMA developed a Local Transit Master Plan ("Marin Transit Futures") in 2000. This plan produced estimates of future revenue and operating and capital costs.

7.7 Bicycle and Pedestrian Projects

The CMA has a significant commitment to bicycle and pedestrian facilities. Two years ago the CMA completed a Countywide Pedestrian and Bicycle Master Plan. Most local communities adopted complementary plans in the last two years. Locally adopted pedestrian and bicycle plans, which are listed in Appendix D, are incorporated into the CMP herein by reference. If independently programmed, funding for these projects has been identified from a variety of sources, including Federal CMAQ funds and State program funds, such as Transportation Enhancement Activities (TEA), Transportation for Livable Communities (TLC), and Safe Routes to School (SR2S). These projects may also be integrated into roadway projects, where feasible.

7.8 Funding Deficiencies

Marin County was unsuccessful in its efforts to pass a one-cent sales tax and then two half-cent measures for transportation starting in November 1990 again in 1992 and 1998. Sonoma County placed a similar one-half cent measure on the November 1990 ballot that also failed. As a result, the U.S. 101 corridor will have a serious shortfall in the necessary funds to maintain LOS.

The CMP legislation requires that Congestion Management Agencies develop a program that is capable of estimating the cost of mitigating the impact of new development on the CMP designated system. A countywide impact fee for new development, similar in concept to local development fees for transportation improvements now collected by a number of cities in the county, is a revenue generating tool that the CMA may ultimately require as part of the CMP. In past discussions on this, the CMA was concerned about discouraging development unless a regional view could be taken.

Before fees could be set, important "nexus" questions would need to be answered. Nexus refers to the relationship between the fees that are charged and the impact that the development creates on the system. The CMA will further evaluate impact fees, and a regional fee for new development commensurate with its impacts may be established. This fee would become a part of the Land-Use Analysis Program (see Chapter 5). Because impact fees have the potential to move development to other jurisdictions, it is desirable that impact fees be developed on a regional and/or corridor level.

Now that a number of new transportation plans in Marin County are completed, a comprehensive understanding of transportation costs can be assessed. A summary of the costs by mode for implementing various projects is contained in *Moving Forward: A 25-Year Transportation Vision for Marin County*.

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CHAPTER 8 – MONITORING, IMPROVEMENT/DEFICIENCY PLANS AND CONFORMANCE

8.1 Purpose and Intent of Legislation

California Government Code sections 65089.3, 65089.4, and 65089.5 govern the conformance process. These sections require that, based on the information obtained through monitoring, the CMA must biannually determine whether or not Marin County and its cities and towns conform to the requirements of the CMP. If an agency believes that a local government is not conforming to CMP requirements, it must then hold a noticed public hearing to determine areas of nonconformance. If after the public hearing the CMA still believes that the local government is not conforming to CMP requirements, it must provide written notice to the local government citing the specific instances of nonconformance. The local government then has 90 days to remedy the instances of nonconformance. If after 90 days the local government has not remedied the nonconformance instances, the CMA makes a finding of nonconformance and notifies the State Controller to withhold certain gas tax subvention funds.

8.2 Local Government Conformance Requirements

The CMP legislation makes the following requirements of a conformance determination for local jurisdictions:

- Maintaining the highway LOS standards outlined in the CMP (Chapter 2).
- Participating in a program to analyze the impact of land-use decisions, including the estimate of the costs associated with mitigating these impacts. Specific requirements and recommendations are outlined in the Land-Use Analysis Program element of the CMP (Chapter 5).
- Participating in adoption and implementation of a deficiency plan when highway and roadway LOS standards are not maintained on portions of the designated system.

If either Marin County or cities and towns in the county do not meet each of these CMP requirements by December 2003 when the CMA will make its nonconformance determination for each jurisdiction,[7] the jurisdiction that is found in nonconformance may risk losing an increment in their gasoline tax subvention funds and not having projects programmed in the Regional Transportation Improvement Program (RTIP).

[7] "Jurisdiction" refers to the local government that has the greatest segment distance within its boundaries. Designation of a jurisdiction that has primary responsibility for the segment provides clear direction to who is responsible for preparation of deficiency plans.

8.3 Local Government Monitoring Requirements

The CMA must take active steps to ensure that Marin County and each city and town in Marin County at least biannually conforms to each requirement of the CMP legislation. Monitoring must be done for several reasons:

- Congestion is projected to increase, which will waste valuable time and add to the transportation costs of goods and services.
- Congestion causes energy to be wasted and contributes to a worsening of our air quality.
- Coordinated growth management and transportation planning is essential to minimizing both travel time and costs.

The CMP legislation specifies that jurisdictions that do not demonstrate that they conform to the requirements will lose street and highway subvention money. Many jurisdictions would use this money for maintenance of existing streets and roads so that their transportation infrastructure does not go neglected for many years.

Outlined below is the recommended monitoring that each jurisdiction should undertake to document to the CMA that it conforms to CMP requirements.

8.3.1 Maintaining the Highway Level-of-Service Standards

Marin County, and each city and town, biannually monitors the level of service on segments[8] of the CMP designated routes within its jurisdiction. Where a segment falls within two or more jurisdictions, the jurisdiction responsible for the segment is the jurisdiction with the greatest segment mileage. The monitoring program occurs during the P.M. peak hour (4:00 P.M. to 6:00 P.M.). The traffic counts also should be taken in the spring (April or May), with counts at fall periods acceptable when needed (September or October). The LOS is to be based on the counts consistent with the methods for determining LOS outlined in the highway LOS standards (Chapter 2). In general, local governments are responsible for counts on the non-state maintained, CMP designated facilities, and Caltrans is responsible for counts on the state maintained, CMP designated facilities where either of the following conditions are met:

- The "existing" run of the Marin Travel Model shows that there has been a volume-to-capacity (v/c) ratio change that places the facility within 0.05 of the cutoff between what is considered acceptable and what is considered deficient (i.e., if the v/c ratio exceeds 0.85 for principal arterials, as opposed to 0.90, or 0.95 for freeways and rural expressways, as opposed to 1.00). Specific segments meeting these criteria would be determined annually by the CMA.

[8] Roadway segments are defined from interchange to interchange for freeways, and from major intersection to major intersection for non-freeway state highways (e.g., Highway 1) and principal arterials (e.g., Sir Francis Drake Boulevard). These segments, along with the designated "responsible" jurisdiction, are shown in Appendix A.

- The jurisdiction has issued occupancy permits for developments that total 100 or more P.M. peak-hour trips. While the completed projects may have an impact on CMP designated facilities in adjacent jurisdictions, the need for counts on segments that extend beyond the jurisdiction's boundaries would be determined by the annual run of the Marin Travel Model.

Transportation improvements or changed economic conditions may result in changes in LOS. If the LOS is determined to be A, B, or C for any year that is monitored, the monitoring frequency would then become every three years, until such time as the segment is found to operate at LOS D or worse. Any segment determined to operate at LOS D should then be monitored every year.

Certain facilities that currently operate at LOS F can be grandfathered and thus would not be subject to monitoring requirements, as provided for in the CMP legislation. These facilities are outlined in the highway LOS standard (Chapter 2). It is recommended that jurisdictions in cooperation with the CMA develop "improvement plans" for these facilities. Improvement plans are envisioned as a description of construction plans, program options, or management techniques that a local jurisdiction intends to advocate for implementation by that jurisdiction or others (e.g., Caltrans for state facilities).

If a segment that has not been grandfathered is determined by the CMA to not meet the adopted LOS standards (D for principal arterials; E for freeways), then that jurisdiction must:

- Immediately propose and designate funds for measures that improve the LOS to meet or be better than the adopted LOS standard which the CMA would then incorporate into the CIP, or
- Create a "deficiency plan" in accordance with CMP requirements. A deficiency plan requires the local government to:
    1. Analyze the cause of the deficiency **AND** define improvements to the facility that maintain the LOS standard, **OR**
    2. Define improvements that have a measurable improvement on the transportation system's LOS or substantial air quality benefit **AND** determine the cost of the improvements.

Guidelines governing specific issues related to Deficiency Plan preparation are provided as Appendix C of this document.

The CMA decided to grandfather certain roadway segments currently operating at LOS F according to specified criteria, and to recommend preparation of improvement plans for the grandfathered roadway segments. This exempts certain freeway and arterial segments from the congestion management requirements where the CMA cannot identify viable transportation improvements for improving the operation of the deficient segment to meet the adopted LOS standard.

8.3.2 Maintaining Performance Measures

Performance measures have been required by the CMP legislation. The eight performance measures that are currently analyzed are:

- Roadway Level-of-Service
- Peak-Hour Travel Time
- Person Throughput
- Vehicle Miles Traveled in Congested Conditions
- Job/Housing Balance
- Transit Frequency
- Transit Coordination
- Pedestrian and Bicycle Investment

The CMA, in cooperation with Marin County Transit District and Golden Gate Transit, Highway and Transportation District (Golden Gate Transit) staff, will determine each year whether or not performance measures established in the Performance Element (Chapter 3) have been met. In making this conformance determination, the CMA will have a coordination role with neighboring counties, MTC, Golden Gate Transit, Marin County Transit District, and the other transit operators in the county.

8.3.3 Maintaining a Program to Analyze the Impact of Land-Use Decisions

Land-use impact analysis monitoring requirements are detailed in the Land-Use Analysis Program (Chapter 5). Each jurisdiction is to be responsible for preparing and transmitting to the CMA land-use data for use in the Marin Travel Model, as well as tracking the build-out of that land-use through issuance of planning and building permits. This requirement ties in with the County's existing property development ("PROPDEV") database that local governments are already using, as well as the County Community Development Agency's Countywide Land-Use Database. The CMA annually runs the Marin Travel Model for updating future year LOS information in the CMP. Local governments can find this information very useful when updating the land-use and circulation elements of their general plans.

For any general plan update or amendment or major development proposal that would result in a net increase or decrease of 100 or more P.M. peak-hour vehicle trips, local governments are to forward information on the application to the CMA and run the Marin Travel Model to obtain transportation impact information related to the application. The jurisdiction is responsible for conducting the model run, which could be performed: (1) by the jurisdiction, (2) by a consultant hired by the jurisdiction, or (3) by Marin County Public Works Department only if staff is available to do the work and the jurisdiction requesting the model run reimburses the County for the cost of the model run. Model results are useful to cities and the County as part of their current review and approval process, especially for purposes of defining the necessary mitigation measures.